HCD-S300

SERVICE MANUAL

US Model
AEP Model
UK Model
E Model
Australian Model
Chinese Model

HCD-S300 is the amplifier, DVD/CD and tuner section in DAV-S300.

Model Name Using Similar Mechanism	NEW
Mechanism Type	CDM-55D-DVBU2
Base Unit Type	DVBU2
Optical Pick-up Type	KHM220AAA/CINP1

SPECIFICATIONS

Amplifier section

Stereo mode 30 W + 30 W
(3 ohms at 1 kHz, THD 10 %)
Surround mode Front: 30 W + 30 W
Center*: 30 W
Rear*: 30 W + 30 W
(3 ohms at 1 kHz, THD 10 %)
Subwoofer*: 30 W
(3 ohms at 100 Hz, THD 10 %)

* *Depending on the sound field settings and the source, there may be no sound output.*

Inputs VIDEO 1, 2:
Sensitivity: 150 mV
Impedance: 50 kilohms
Outputs VIDEO 1 (AUDIO OUT):
Voltage: 2 V
Impedance: 1 kilohms
WOOFER:
Voltage: 2 V
Impedance: 1 kilohms
PHONES:
Accepts low- and high-impedance headphones

CD/DVD system

Laser Semiconductor laser
Signal format system
PAL/(NTSC)
Frequency response (at 2 CH STEREO mode)
DVD (PCM): 2 Hz to 22 kHz (±1.0 dB)
CD: 2 Hz to 20 kHz (±1.0 dB)
Signal-to-noise ratio
More than 80 dB (VIDEO 1 (AUDIO) connectors only)
Harmonic distortion
Less than 0.03 %

FM tuner section

System PLL quartz-locked digital synthesizer system
Tuning range 87.50 – 108.00 MHz (50 kHz step)
Antenna FM wire antenna
Antenna terminals
75 ohms, unbalanced
Intermediate frequency
10.7 MHz

AM tuner section

System Tuner section:
PLL quartz-locked digital synthesizer system
Tuning range European models:
531 – 1602 kHz (9 kHz interval)
Australian models:
530 – 1710 kHz (10 kHz interval)
531 – 1602 kHz (9 kHz interval)
Antenna Loop antenna

Video section

Inputs Video: 1 Vp-p 75 ohms
Outputs Video: 1 Vp-p 75 ohms
S-video:
Y: 1 Vp-p 75 ohms
C: PAL 0.3 Vp-p 75 ohms
NTSC 0.286 Vp-p 75 ohms

General

Power requirements
European models:
230 V AC, 50/60 Hz
Australian models:
220 – 240 V AC, 50/60 Hz
Power consumption
68 W
Dimensions (approx.)
355 × 70 × 365 mm
(15 × 2 7/8 × 14 3/8 inches) (w/h/d)
incl. projecting parts
Mass (approx.) 3.8 kg (8 lb 6 oz)
Operating temperature
5°C to 35°C (41°F to 95°F)
Operating humidity
5 % to 90 %
Supplied accessories
Check that you have the following items:
- AM loop antenna (1)
- FM wire antenna (1)
- Speakers (5)
- Speaker cords (5 m x 4, 15 m x 2)
- Video cord (1)
- Remote commander (remote) RM-SS300 (1)
- R6 (size AA) batteries (2)
- Foot pads (24)
- Speakers - Connection and Installation (card) (1)
- 21-pin adaptor (1) (only for the European models)

Design and specifications are subject to change without notice.

COMPACT AV SYSTEM

MICROFILM

SONY

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

For schematic diagrams.

Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- : nonflammable resistor.
- : fusible resistor.
- : panel designation.

Note:	
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	以阴影和 ⚠ 标志来识别的零部件，在安全方面具有关键性，因此只能以规定号码的零部件来更换。

- B+ : B+ Line.
- B− : B– Line.
- : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- Voltages and waveforms are dc with respect to ground in service mode.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
  no mark : STOP
- Circled numbers refer to waveforms.
- Signal path.
  : DVD/CD
  : AUDIO
  : VIDEO
  : C
  : Y
- Abbreviation
  SP : Singapore model.
  HK : Hong Kong model.
  AUS : Australian model.
  MX : Mexican model.
  CND : Canadian model.
  E32 : Cantral & South America model.

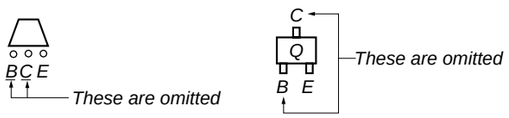
For printed wiring boards.

Note:

- : parts extracted from the component side.
- ○ : Through hole.
- : Pattern from the side which enables seeing.

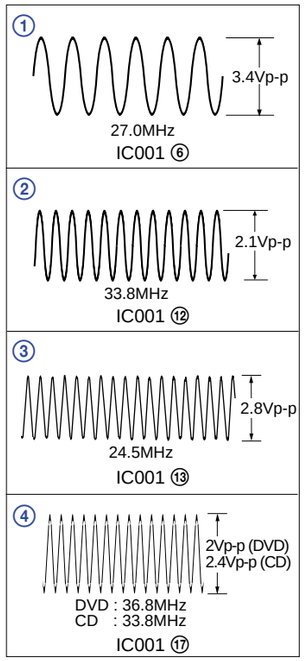
(The other layers' patterns are not indicated.)

- **Indication of transistor**

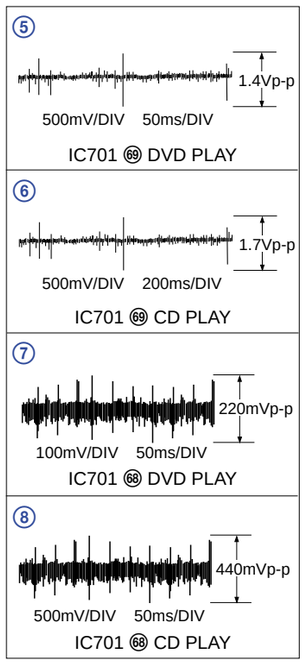


WAVEFORMS

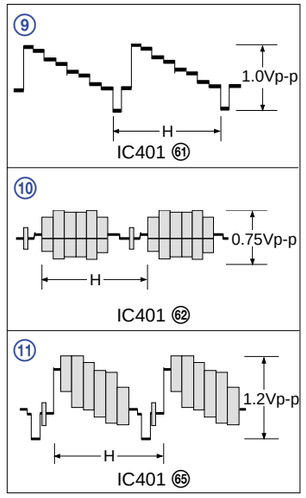
– DVD (1/12) SECTION –



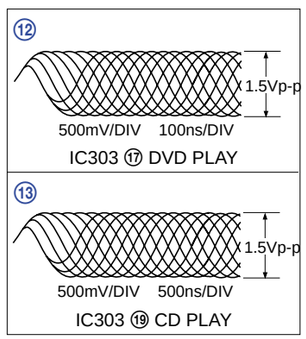
– DVD (2/12) SECTION –



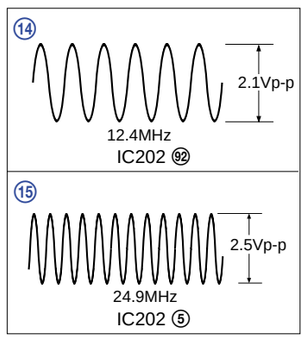
– DVD (4/12) SECTION –



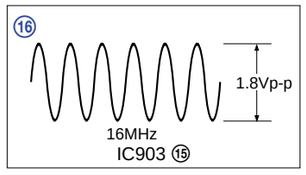
– DVD (5/12) SECTION –



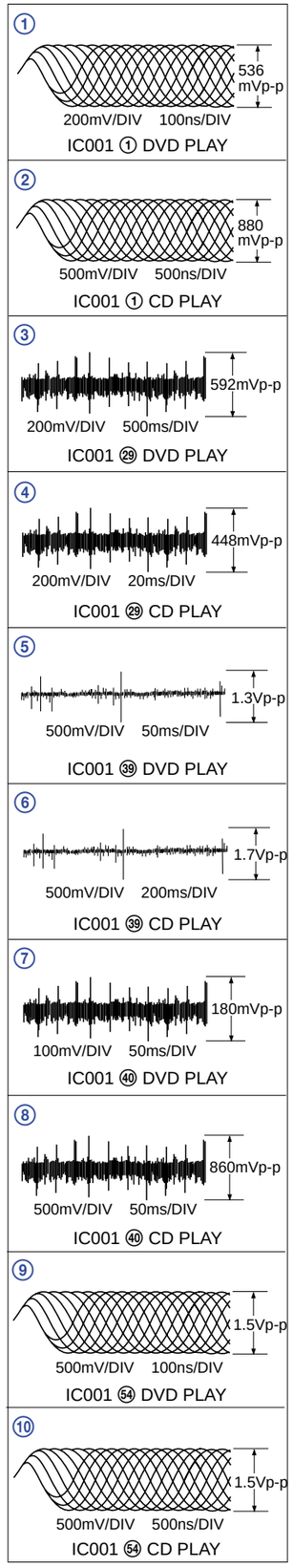
– DVD (8/12) SECTION –



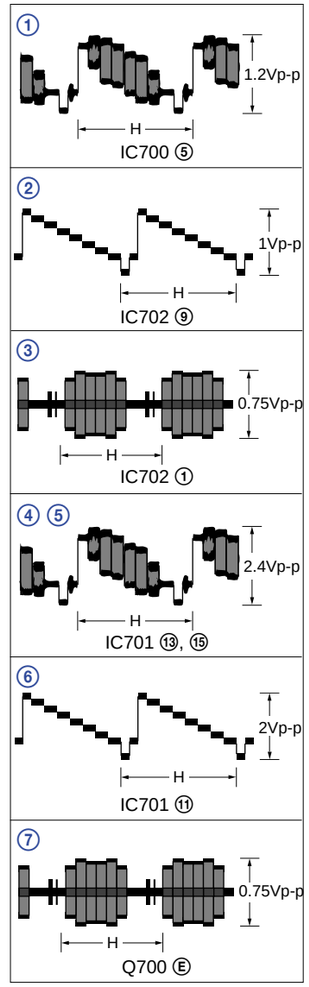
– DVD (10/12) SECTION –



– TK SECTION –

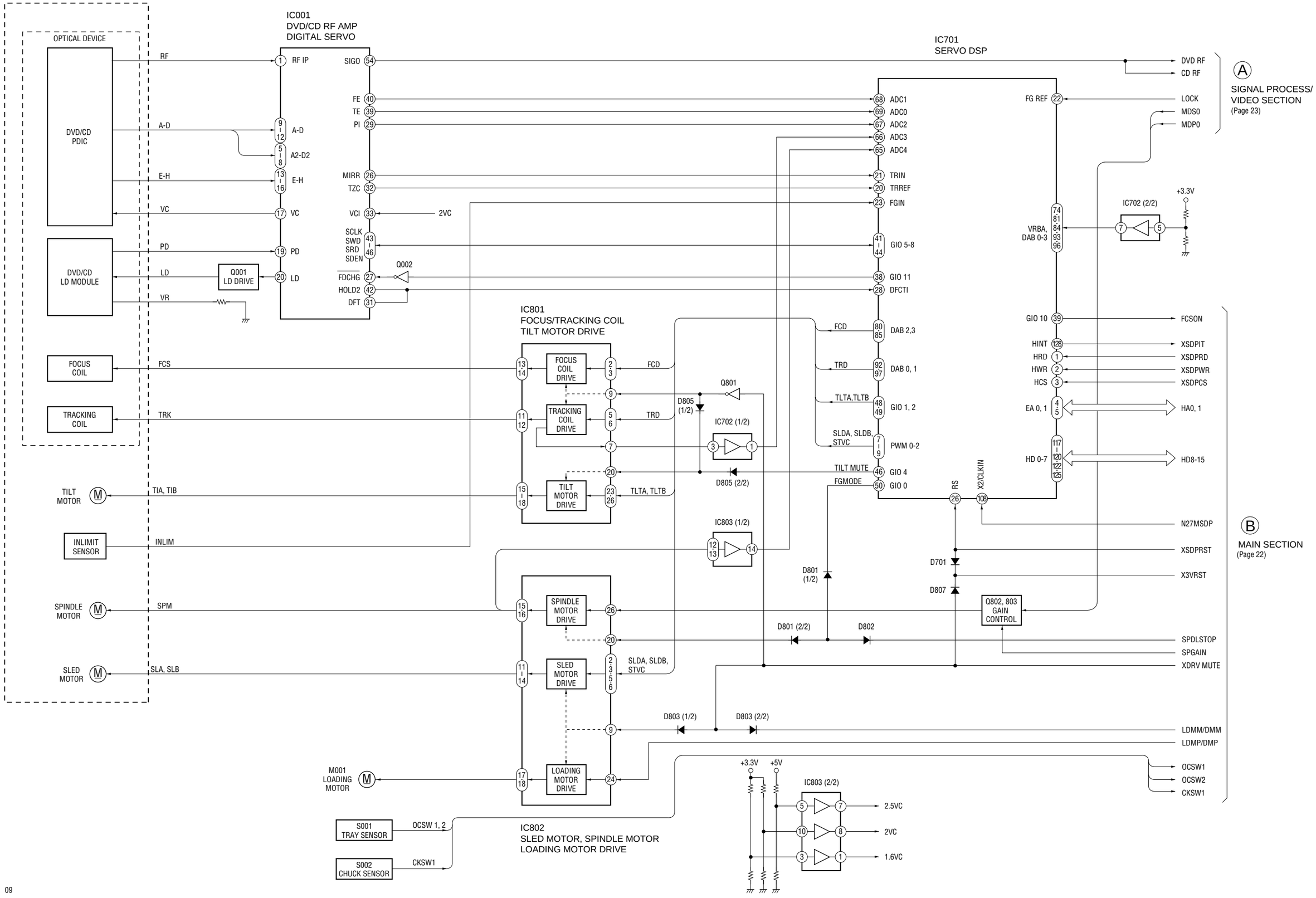


– VIDEO SECTION –



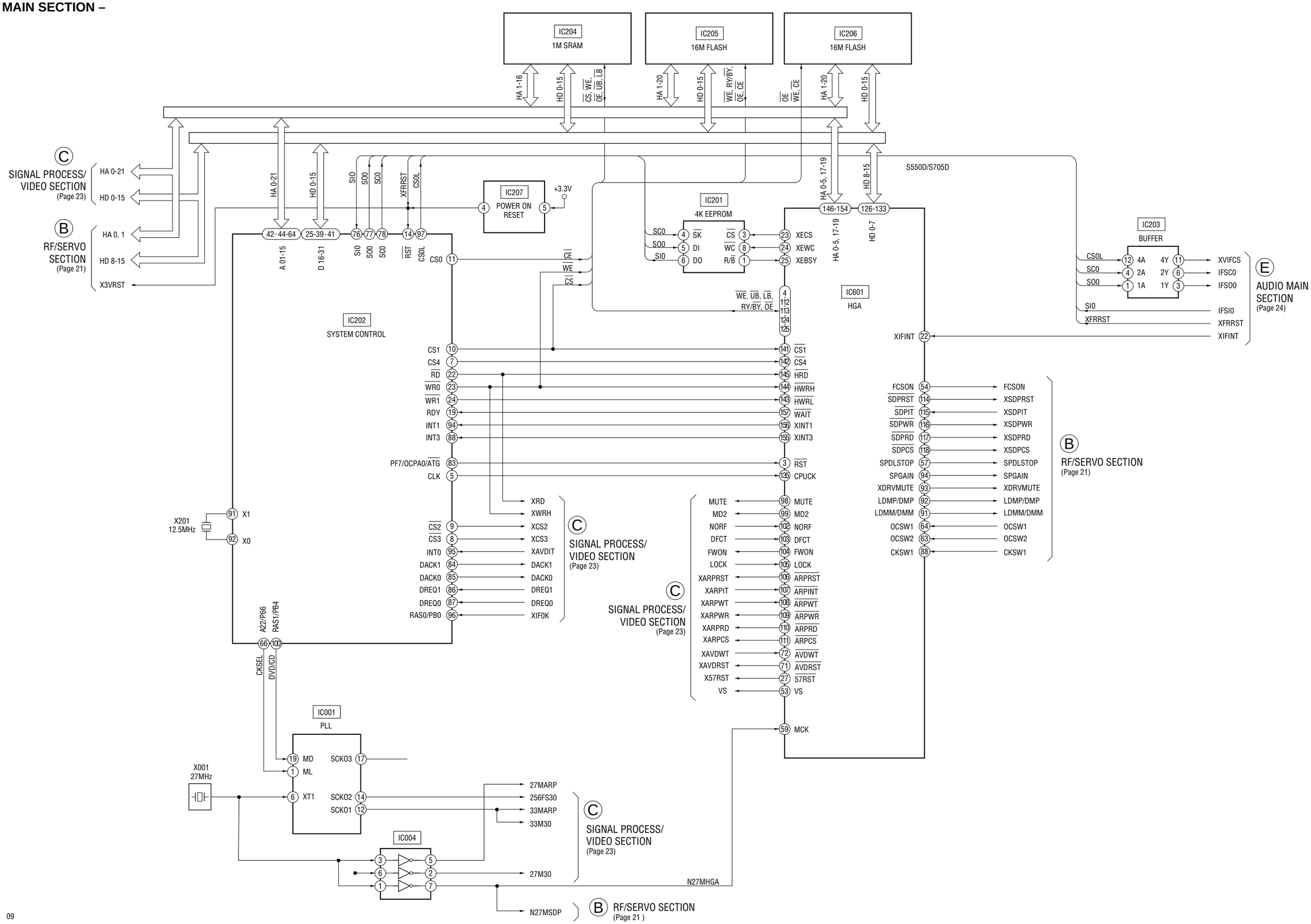
20

6-2. BLOCK DIAGRAMS
– RF/SERVO SECTION –



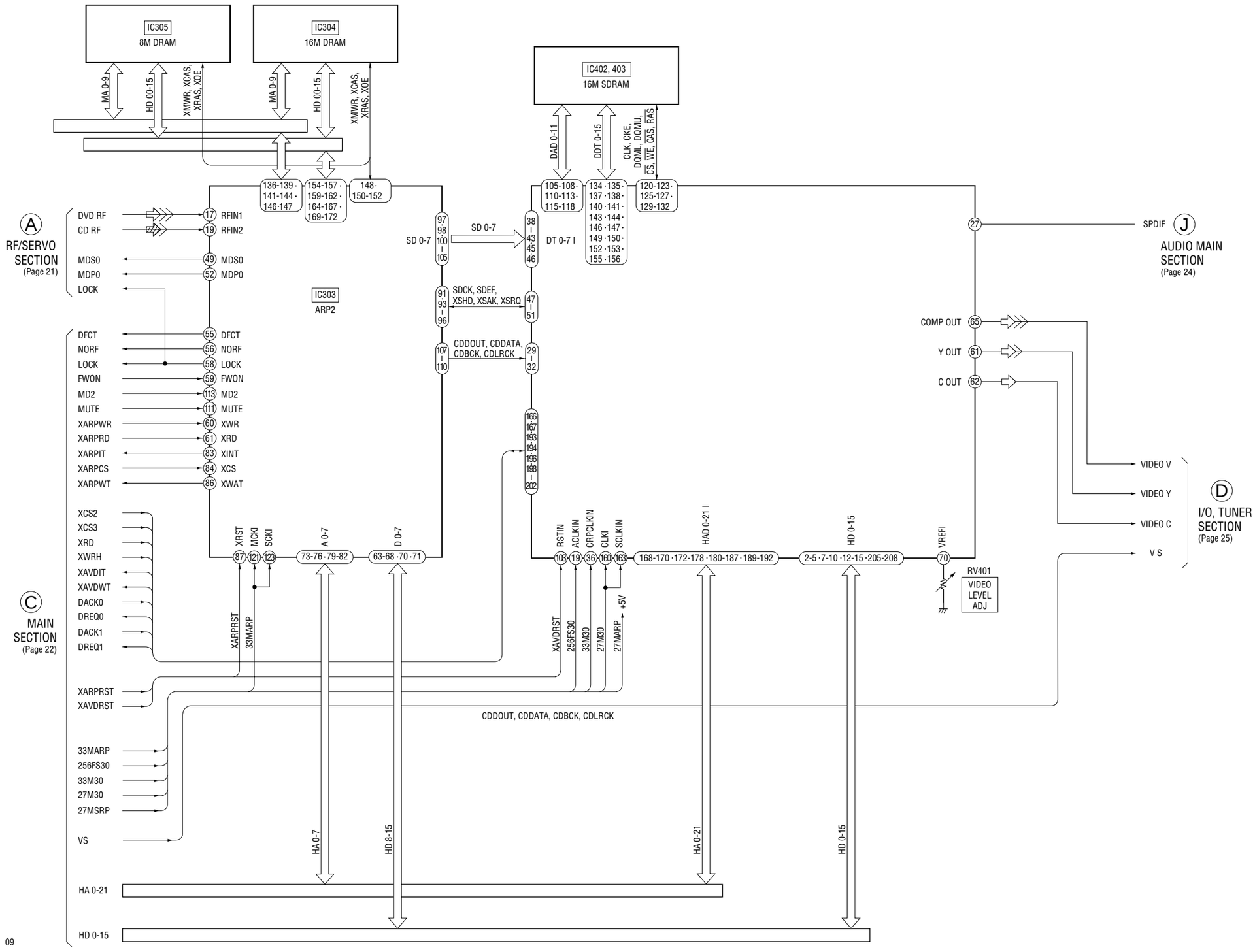
09

– MAIN SECTION –



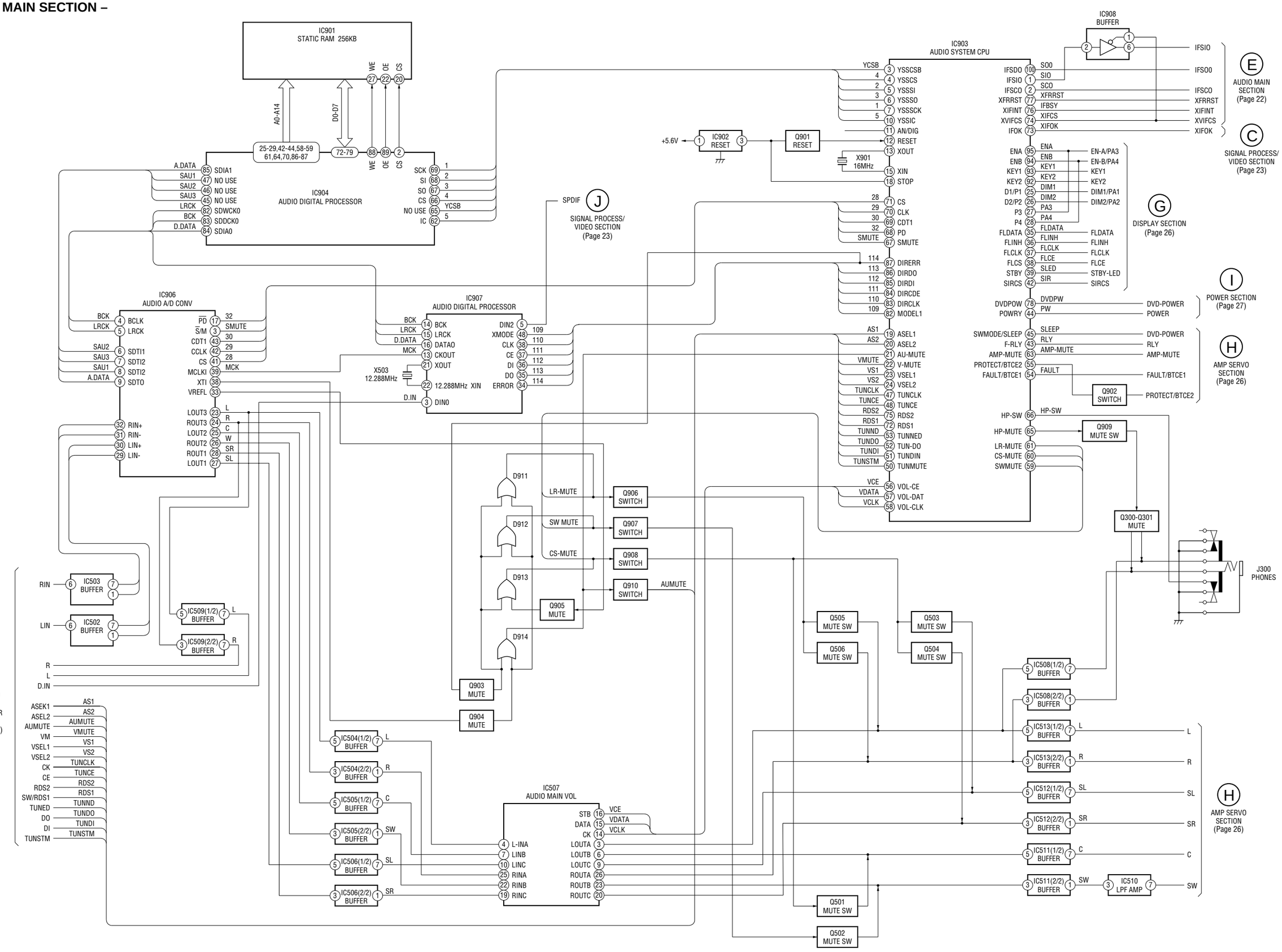
09

– SIGNAL PROCESS/VIDEO SECTION –



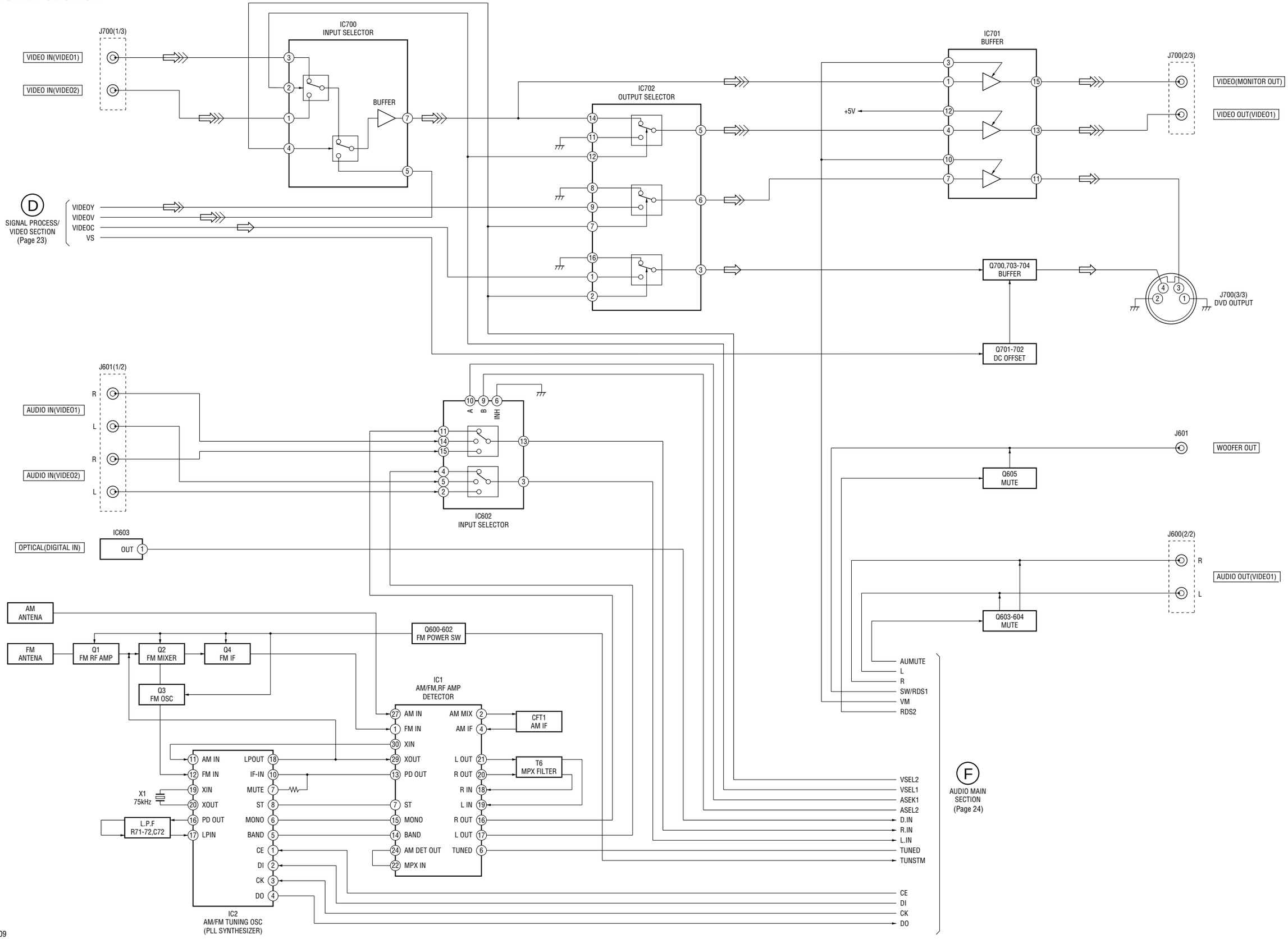
09

– AUDIO MAIN SECTION –



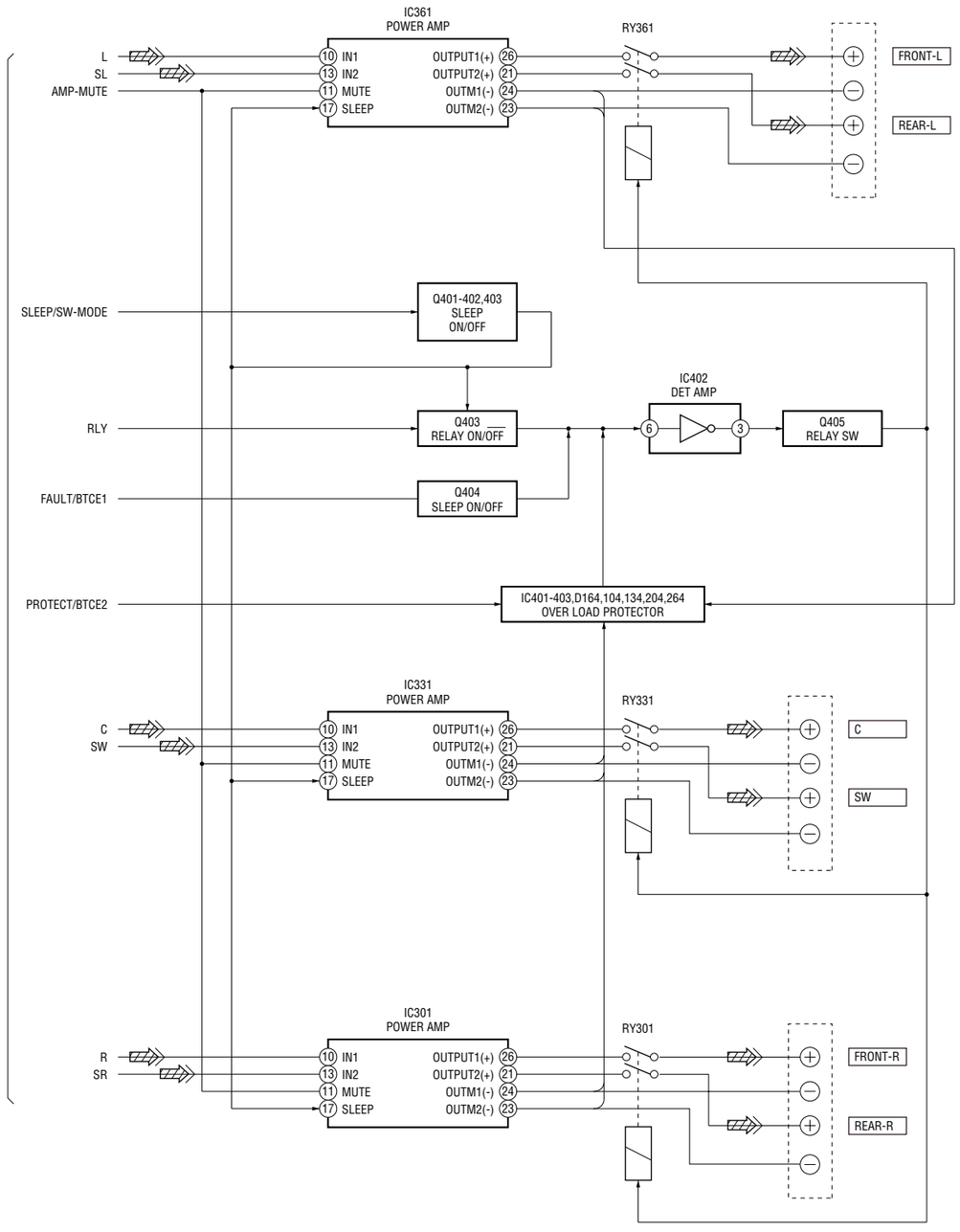
09

– I/O, TUNER SECTION –



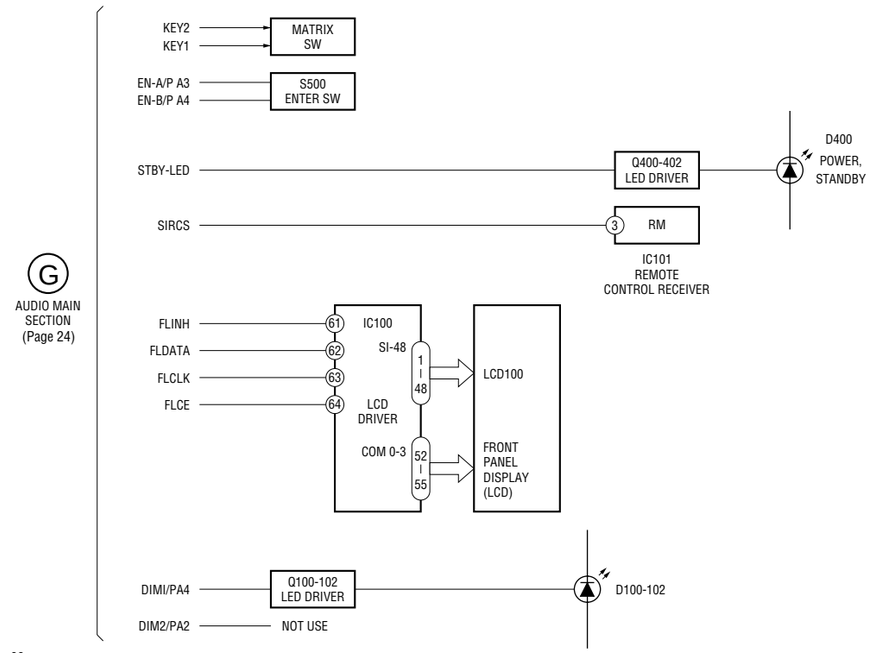
09

– AMP SECTION –



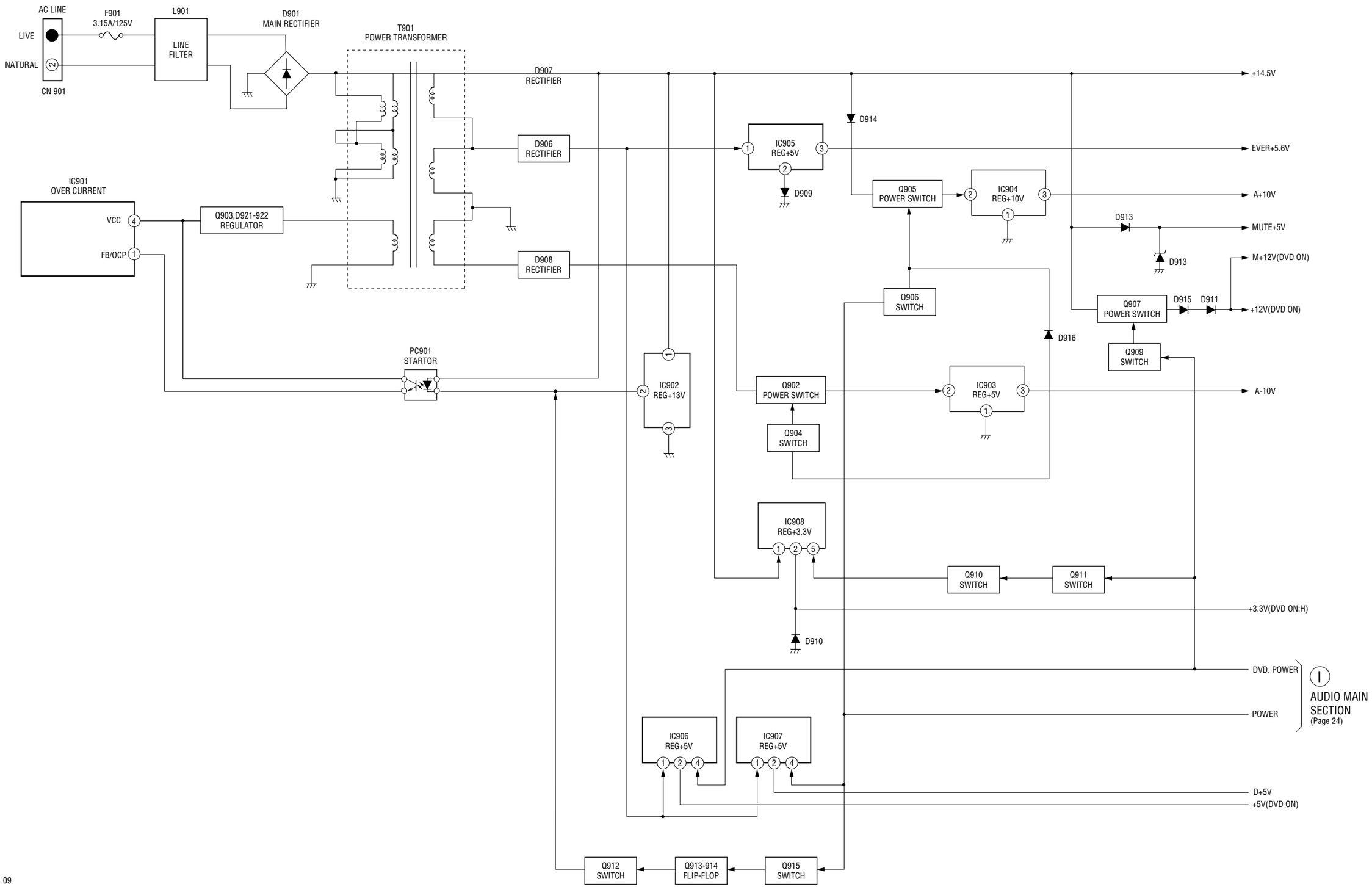
09

– DISPLAY SECTION –



09

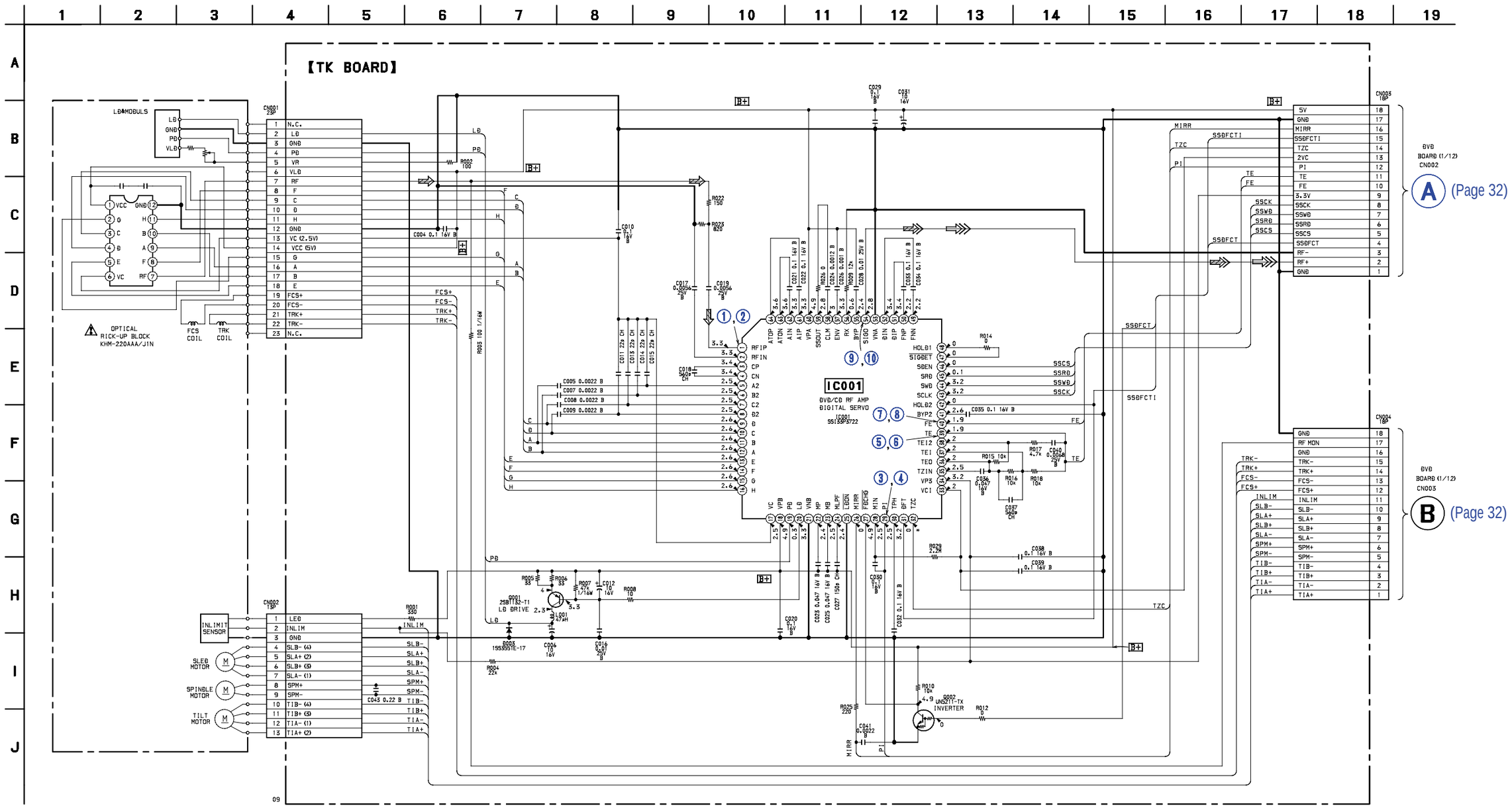
– POWER SECTION –



09

6-4. SCHEMATIC DIAGRAM – TK SECTION –

• See page 20 for Waveforms.

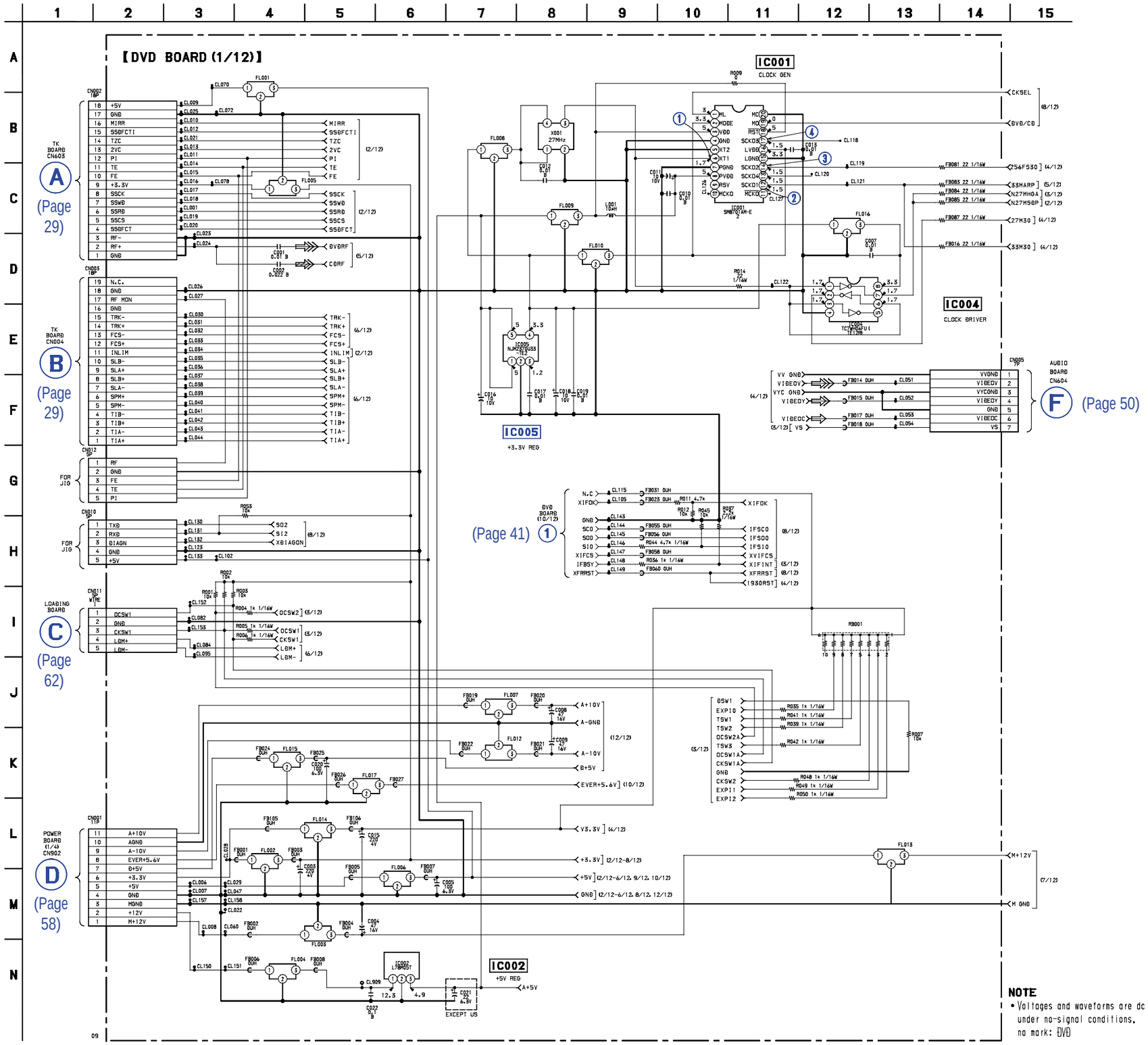


NOTE

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark: FM

6-6. SCHEMATIC DIAGRAM – DVD (1/12) SECTION –

- See page 20 for Waveforms.
- See page 30 for Printed Wiring Board.
- See page 63 for IC Block Diagrams.

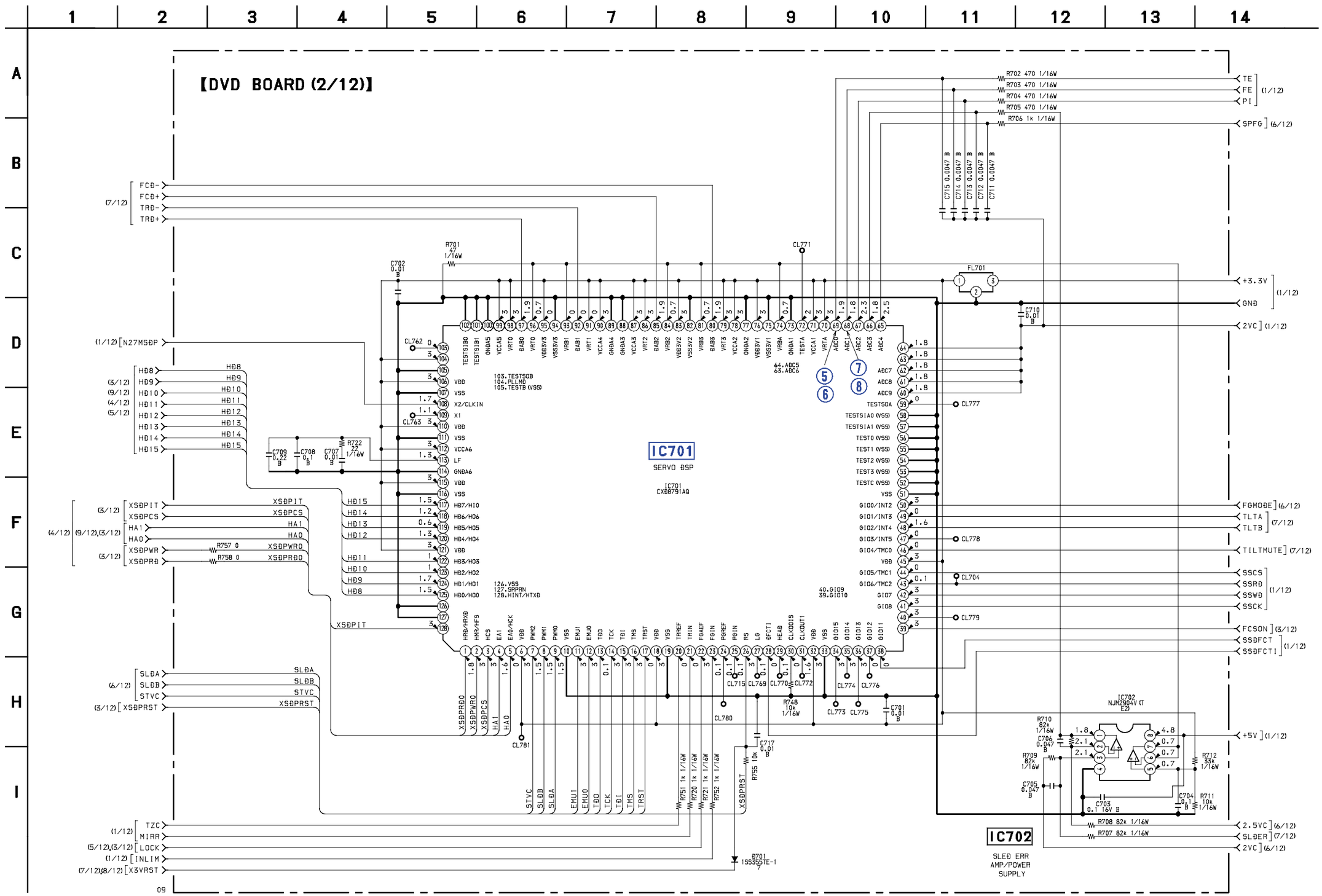


NOTE

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark: DVD

6-7. SCHEMATIC DIAGRAM – DVD (2/12) SECTION –

- **See page 20 for Waveforms.**
- **See page 30 for Printed Wiring Board.**
- **See page 65 for IC Block Diagrams.**

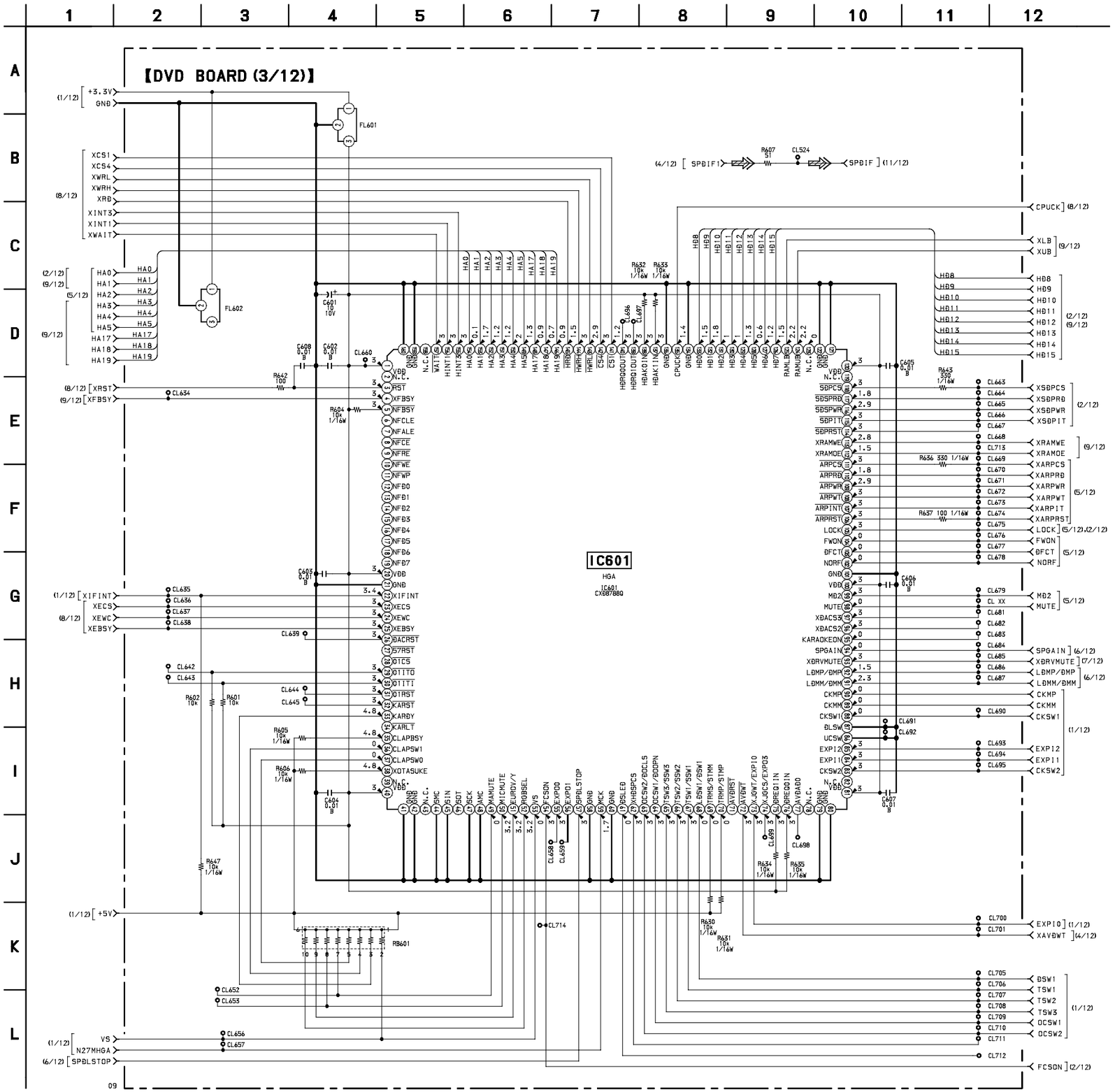


NOTE

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark: DVD

6-8. SCHEMATIC DIAGRAM – DVD (3/12) SECTION –

- **See page 20 for Waveforms.**
- **See page 30 for Printed Wiring Board.**
- **See page 65 for IC Block Diagrams.**

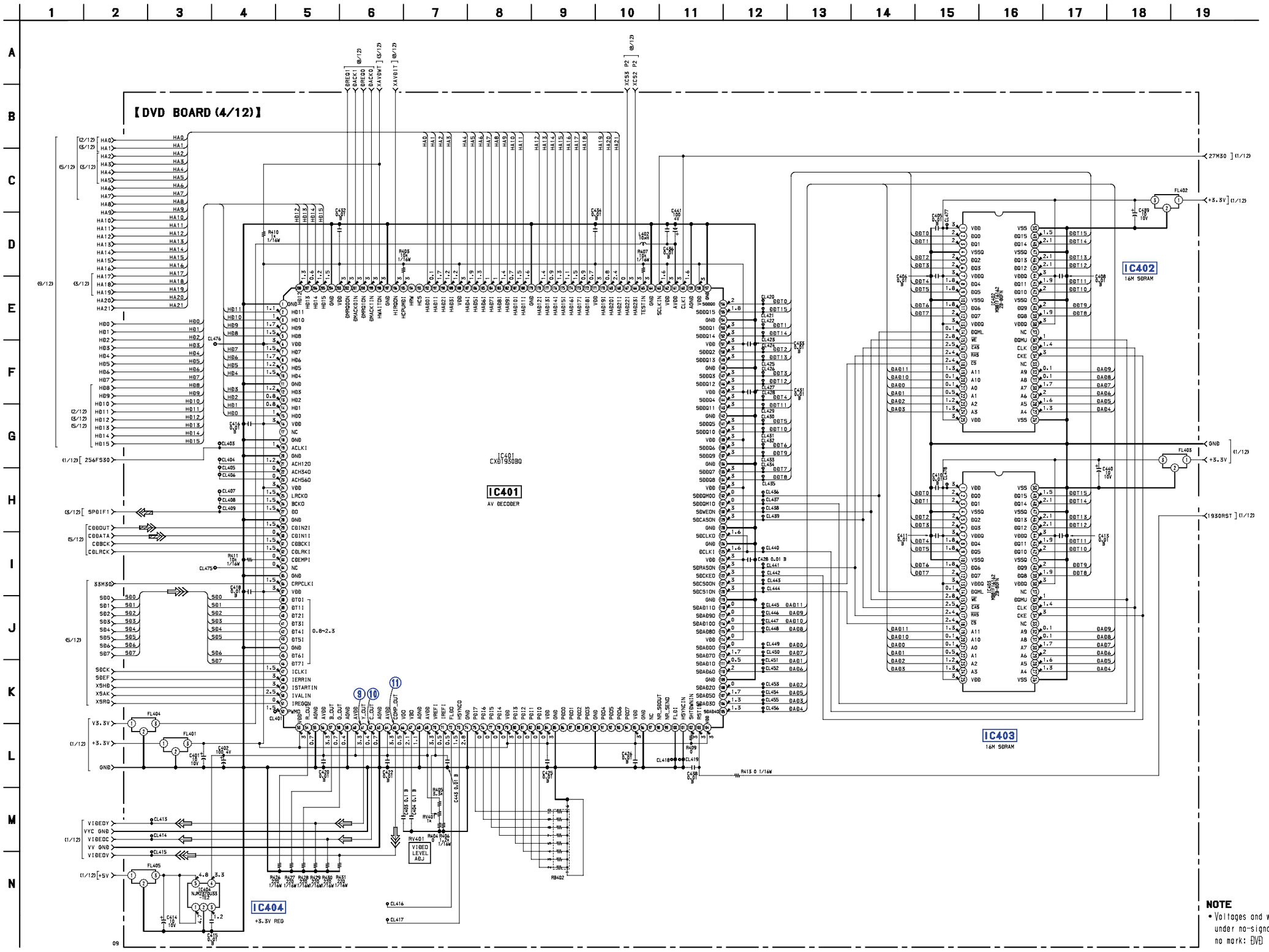


NOTE

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark: DVD

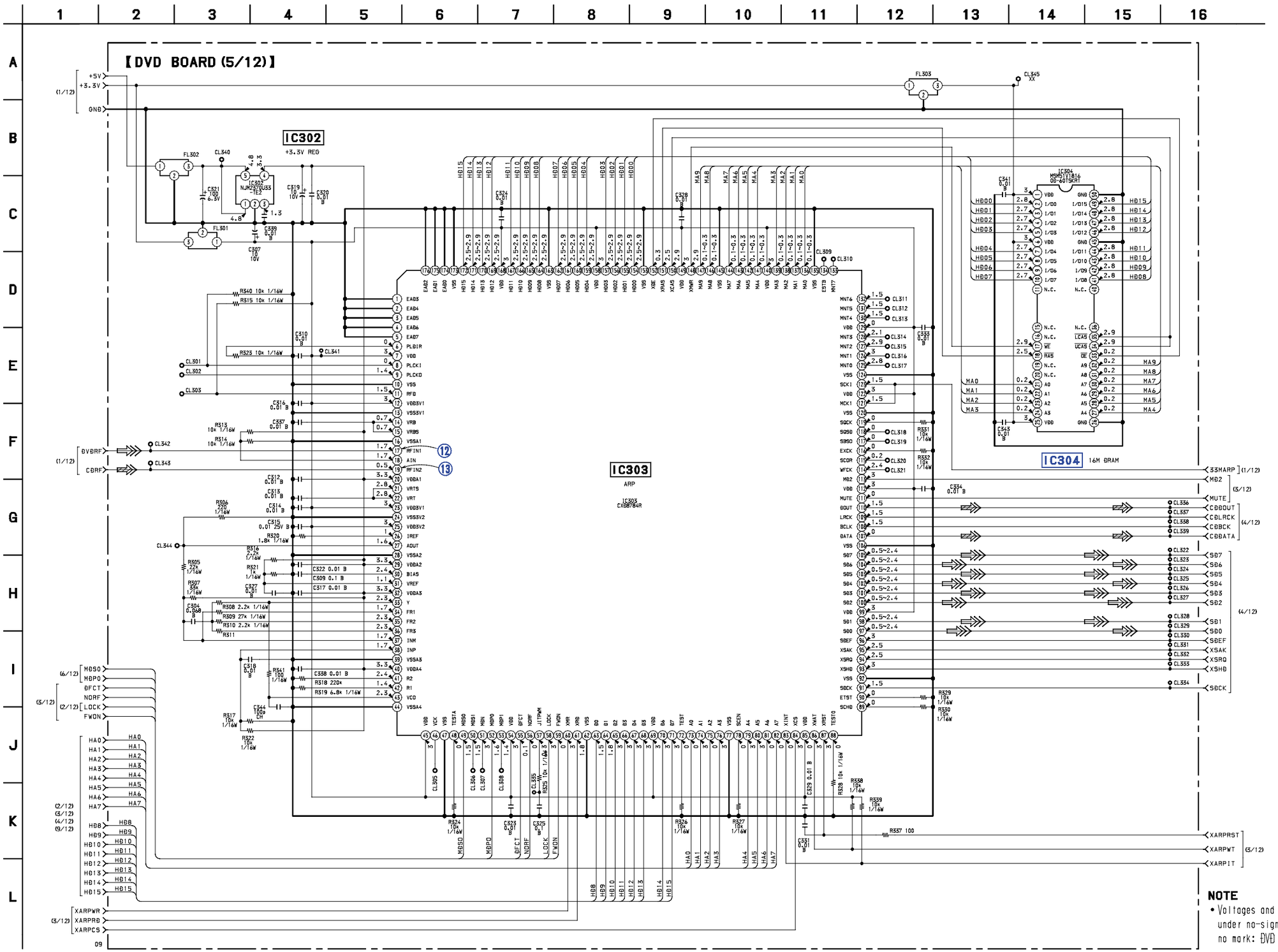
6-9. SCHEMATIC DIAGRAM – DVD (4/12) SECTION –

- See page 20 for Waveforms.
- See page 30 for Printed Wiring Board.
- See page 63, 64 for IC Block Diagrams.



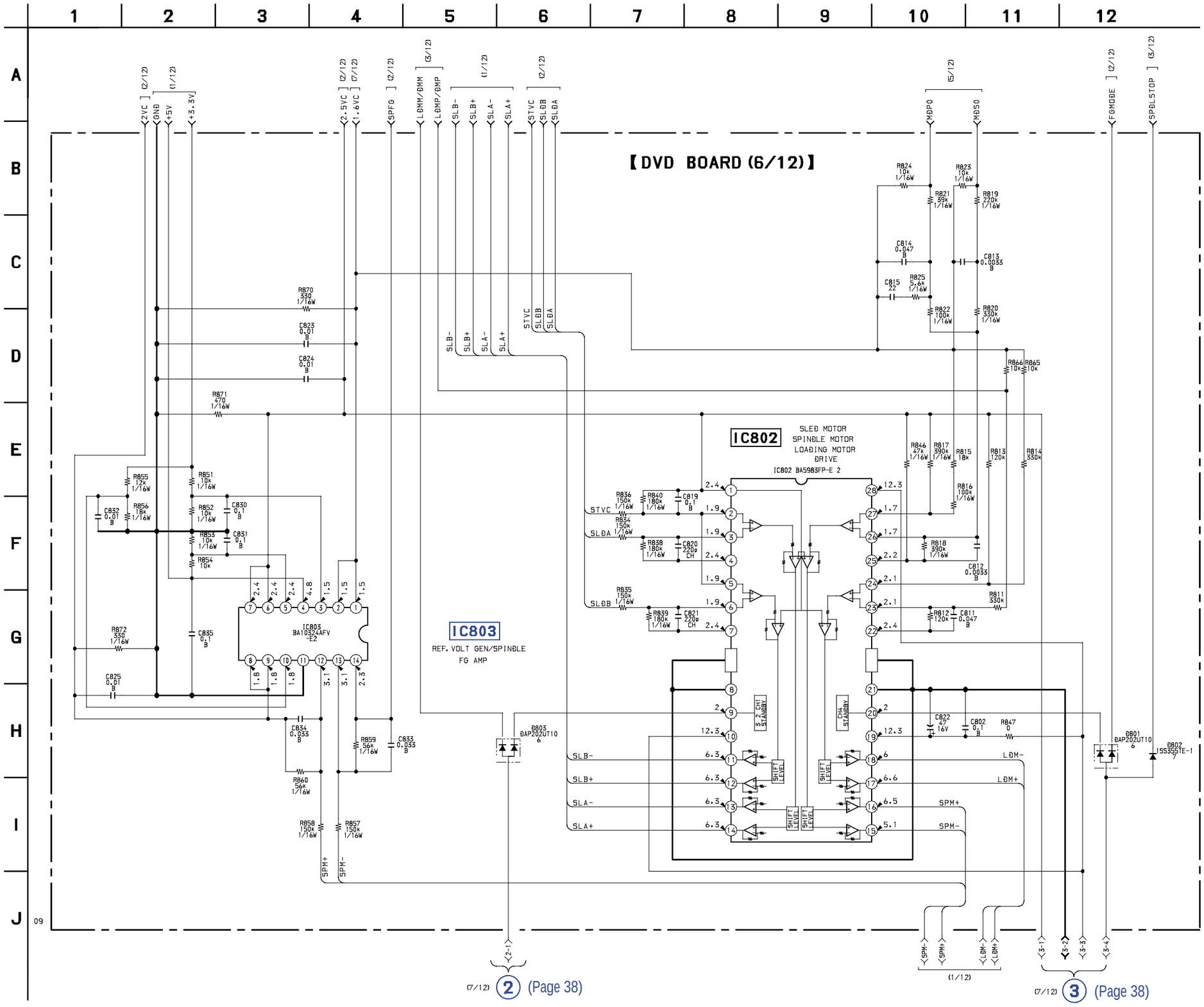
6-10. SCHEMATIC DIAGRAM – DVD (5/12) SECTION –

- See page 20 for Waveforms.
- See page 30 for Printed Wiring Board.
- See page 64 for IC Block Diagrams.



6-11. SCHEMATIC DIAGRAM – DVD (6/12) SECTION –

- **See page 20 for Waveforms.**
- **See page 30 for Printed Wiring Board.**
- **See page 65 for IC Block Diagrams.**

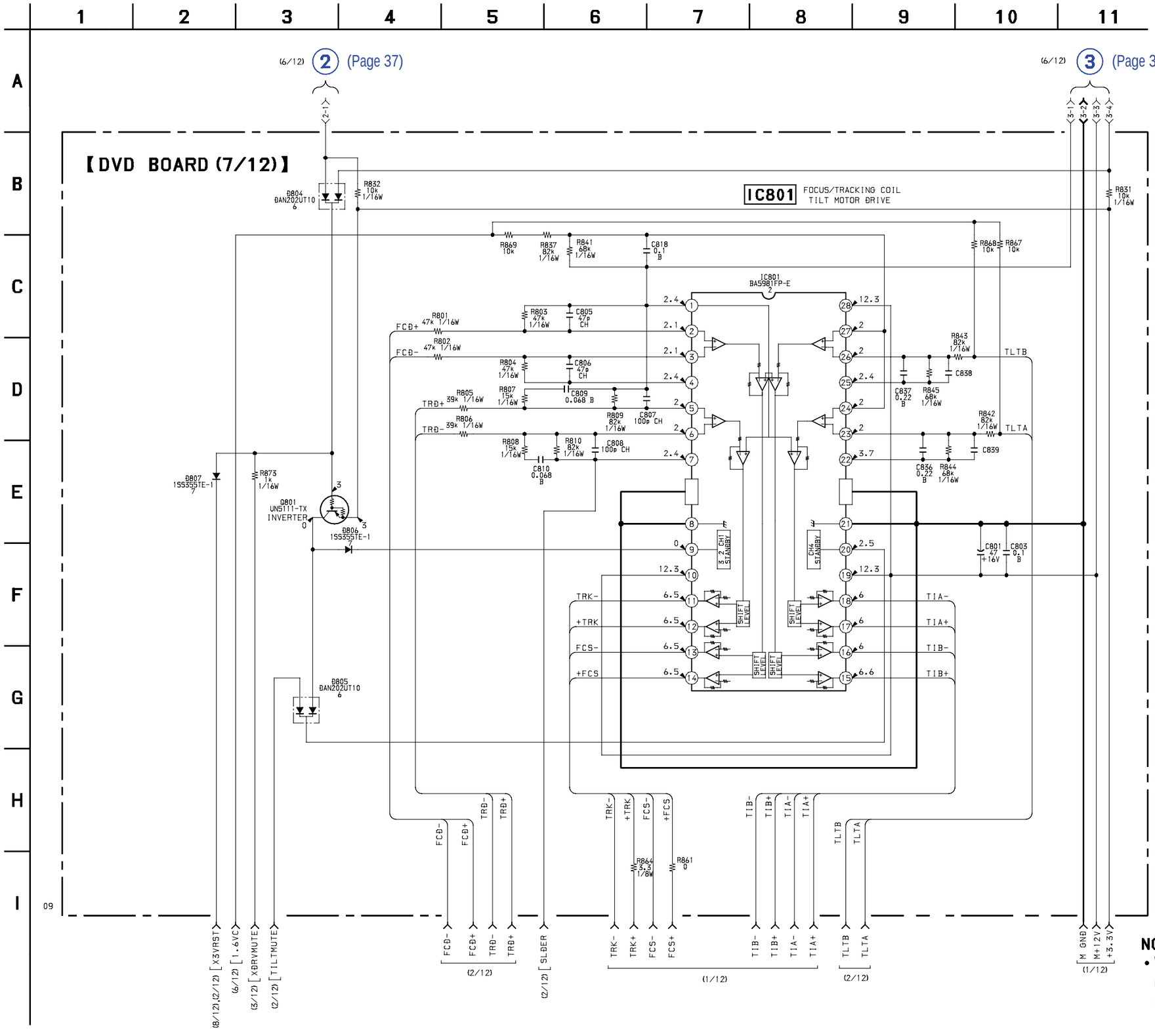


NOTE

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark: DVD

6-12. SCHEMATIC DIAGRAM – DVD (7/12) SECTION –

- See page 20 for Waveforms.
- See page 30 for Printed Wiring Board.
- See page 65 for IC Block Diagrams.

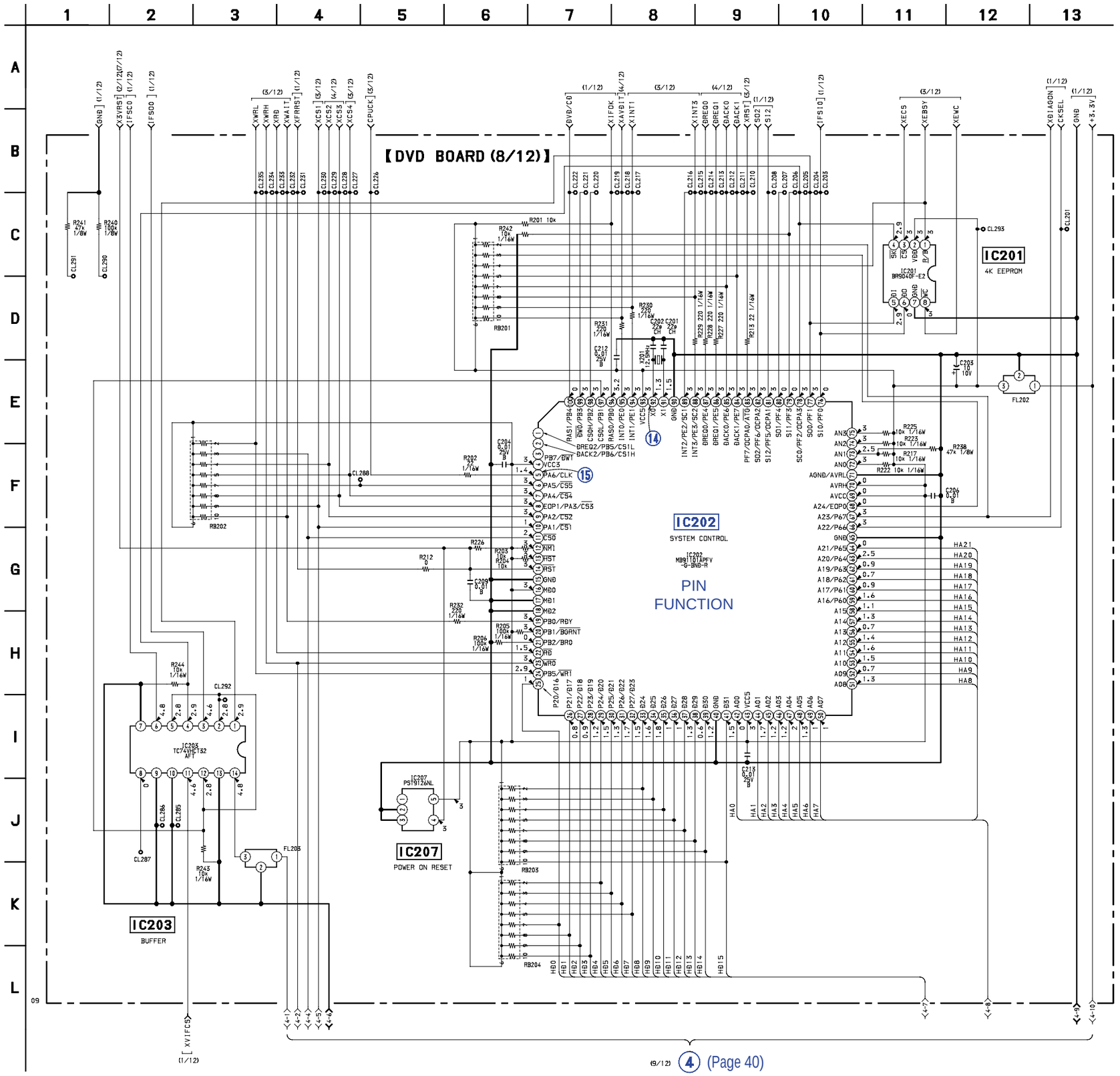


NOTE

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark: ĐVĐ

6-13. SCHEMATIC DIAGRAM – DVD (8/12) SECTION –

- See page 20 for Waveforms.
- See page 38 for Printed Wiring Board.
- See page 63 for IC Block Diagrams.
- See page 67 for IC Pin Functions.

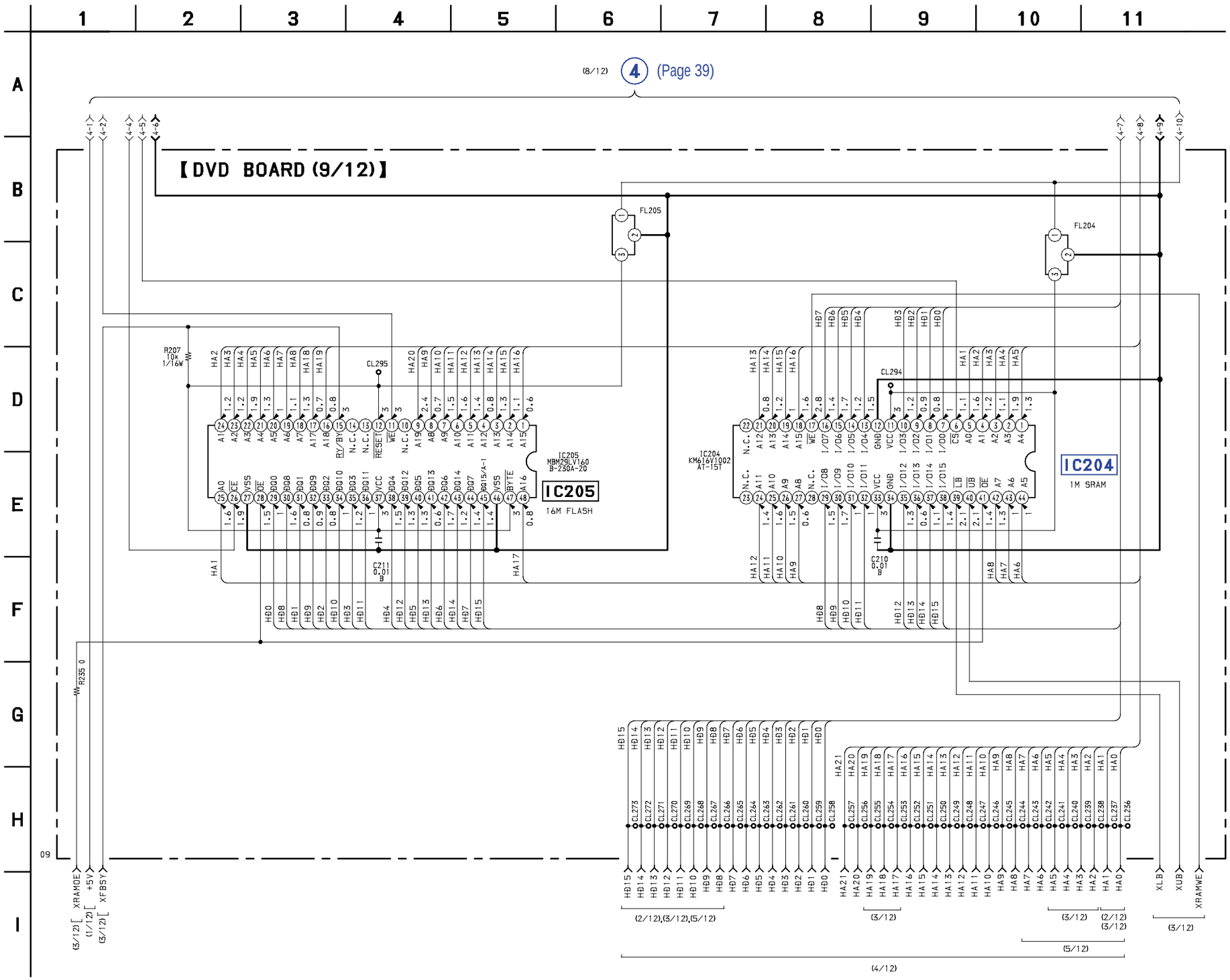


NOTE

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark: DVD

6-14. SCHEMATIC DIAGRAM – DVD (9/12) SECTION –

- **See page 20 for Waveforms.**
- **See page 38 for Printed Wiring Board.**
- **See page 64 for IC Block Diagrams.**

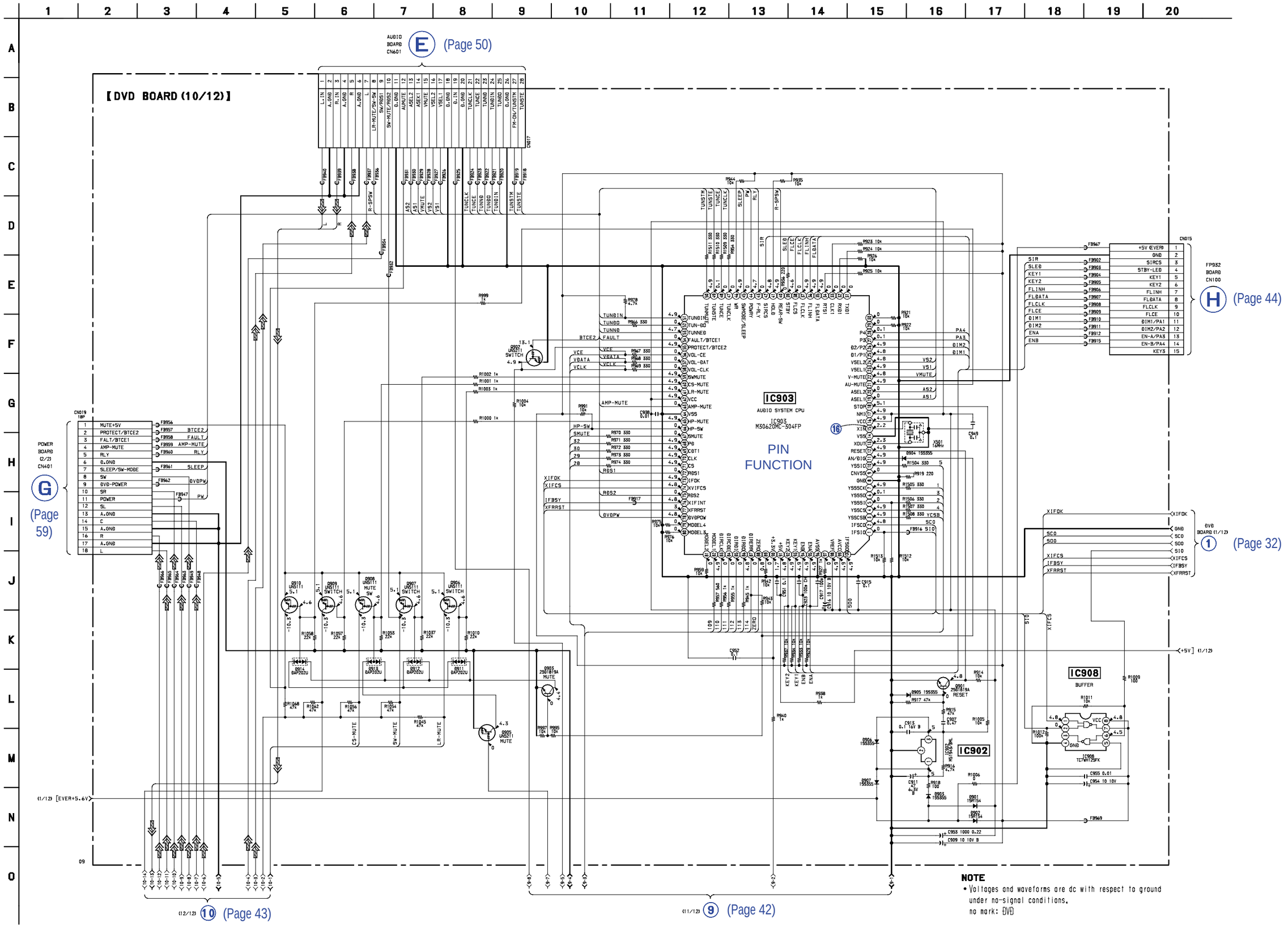


NOTE

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark: DVD

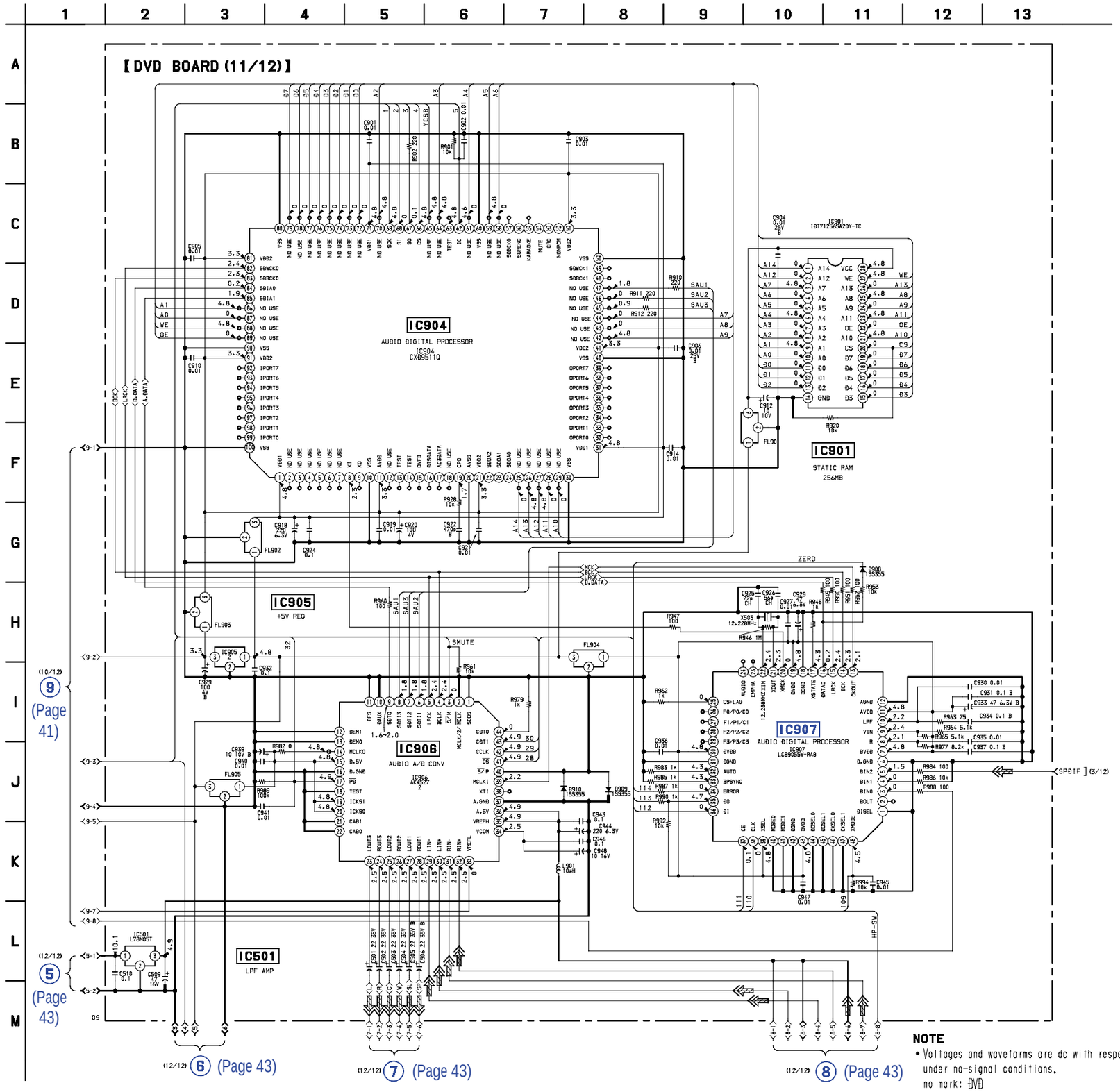
6-15. SCHEMATIC DIAGRAM – DVD (10/12) SECTION –

- See page 20 for Waveforms.
- See page 30 for Printed Wiring Board.
- See page 69 for IC Pin Functions.



6-16. SCHEMATIC DIAGRAM – DVD (11/12) SECTION –

- See page 20 for Waveforms.
- See page 30 for Printed Wiring Board.
- See page 66 for IC Block Diagrams.

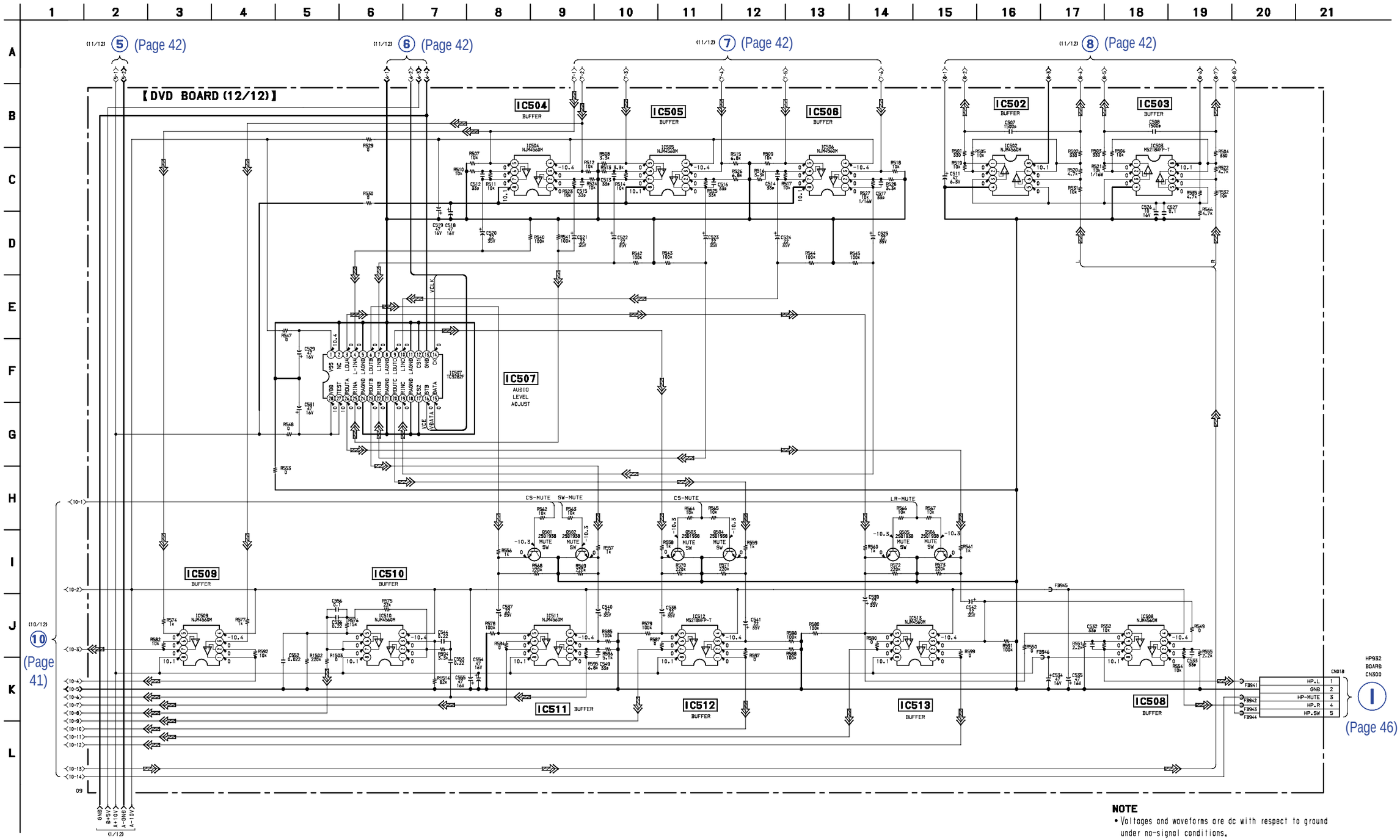


NOTE

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark: DVD

6-17. SCHEMATIC DIAGRAM – DVD (12/12) SECTION –

- **See page 20 for Waveforms.**
- **See page 30 for Printed Wiring Board.**
- **See page 65 for IC Block Diagrams.**

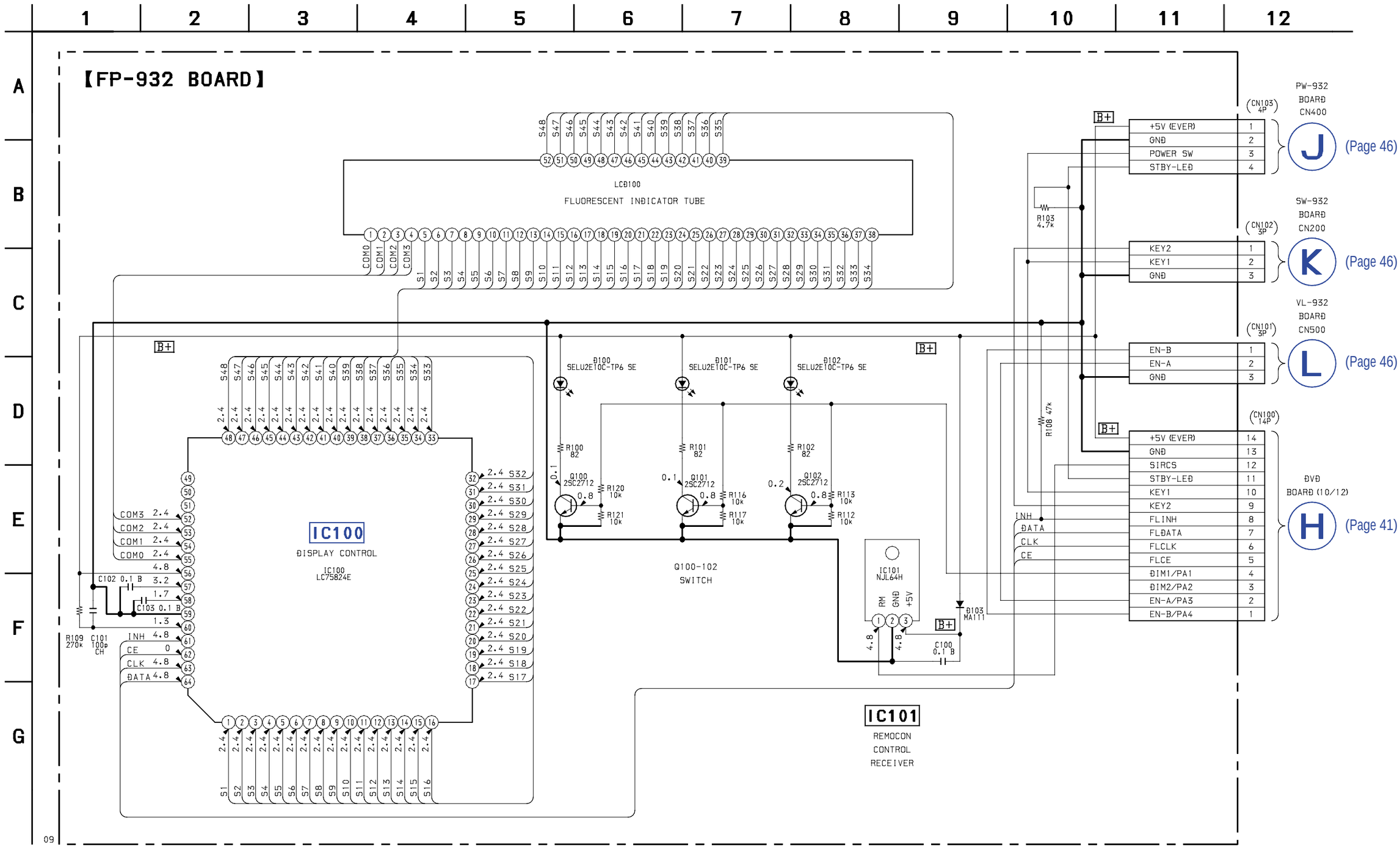


NOTE

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark: DVD

6-18. SCHEMATIC DIAGRAM – FRONT (1/2) SECTION –

- See page 20 for Waveforms.
- See page 66 for IC Block Diagrams.

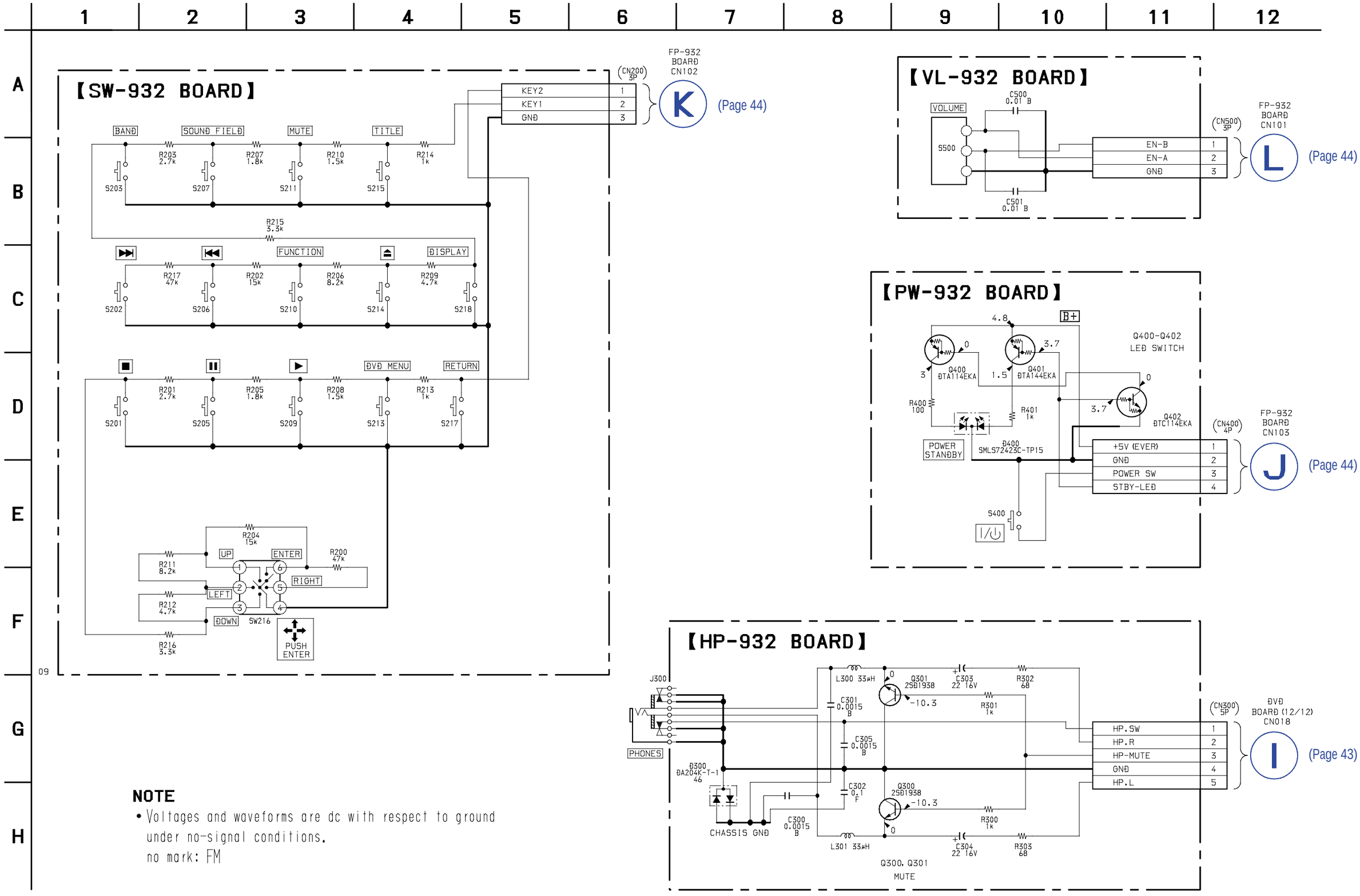


NOTE

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark: FM

6-20. SCHEMATIC DIAGRAM – FRONT (2/2) SECTION –

• See page 20 for Waveforms.

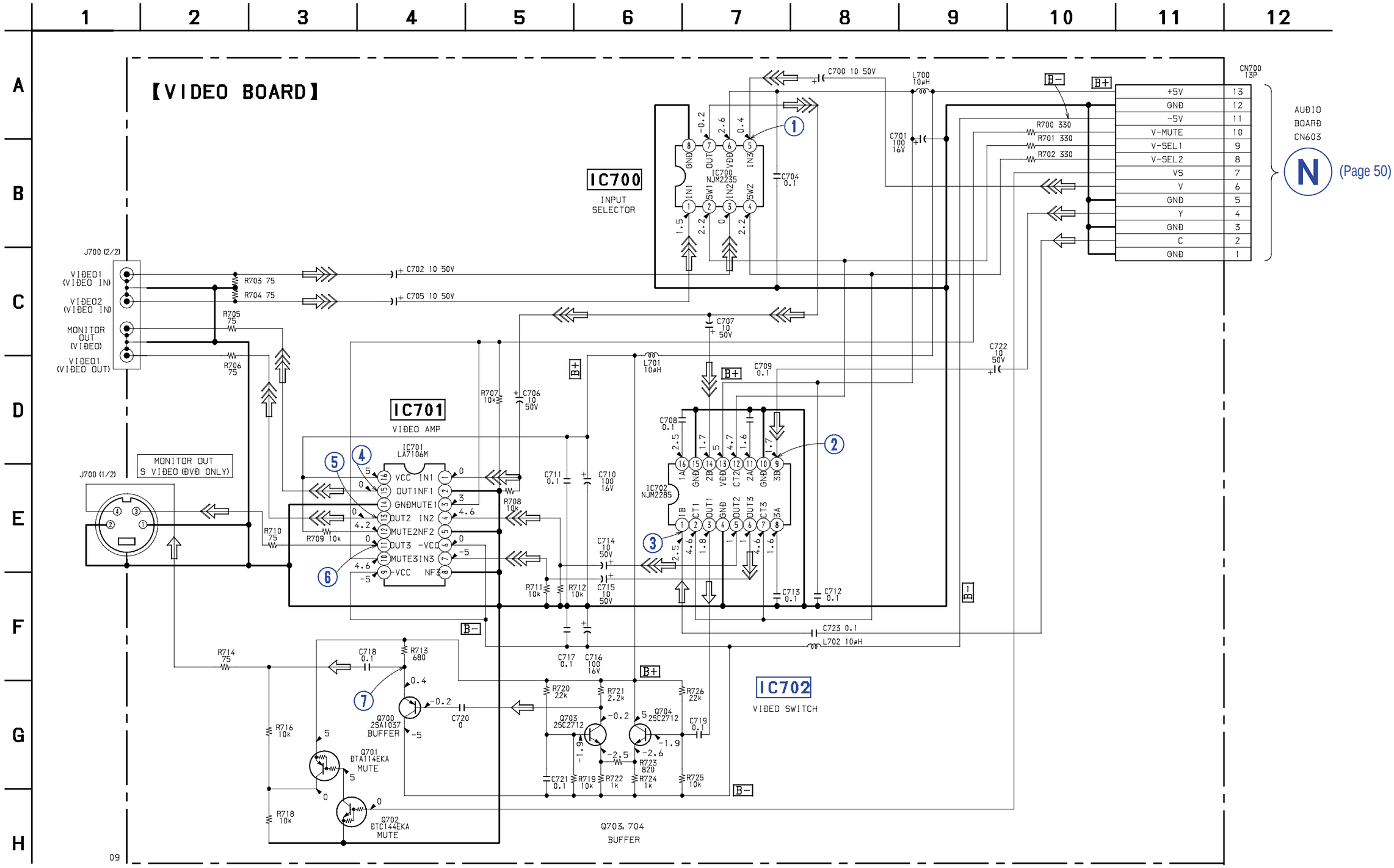


NOTE

• Voltages and waveforms are dc with respect to ground under no-signal conditions.
no mark: FM

6-22. SCHEMATIC DIAGRAM – VIDEO SECTION –

- See page 20 for Waveforms.
- See page 66 for IC Block Diagrams.

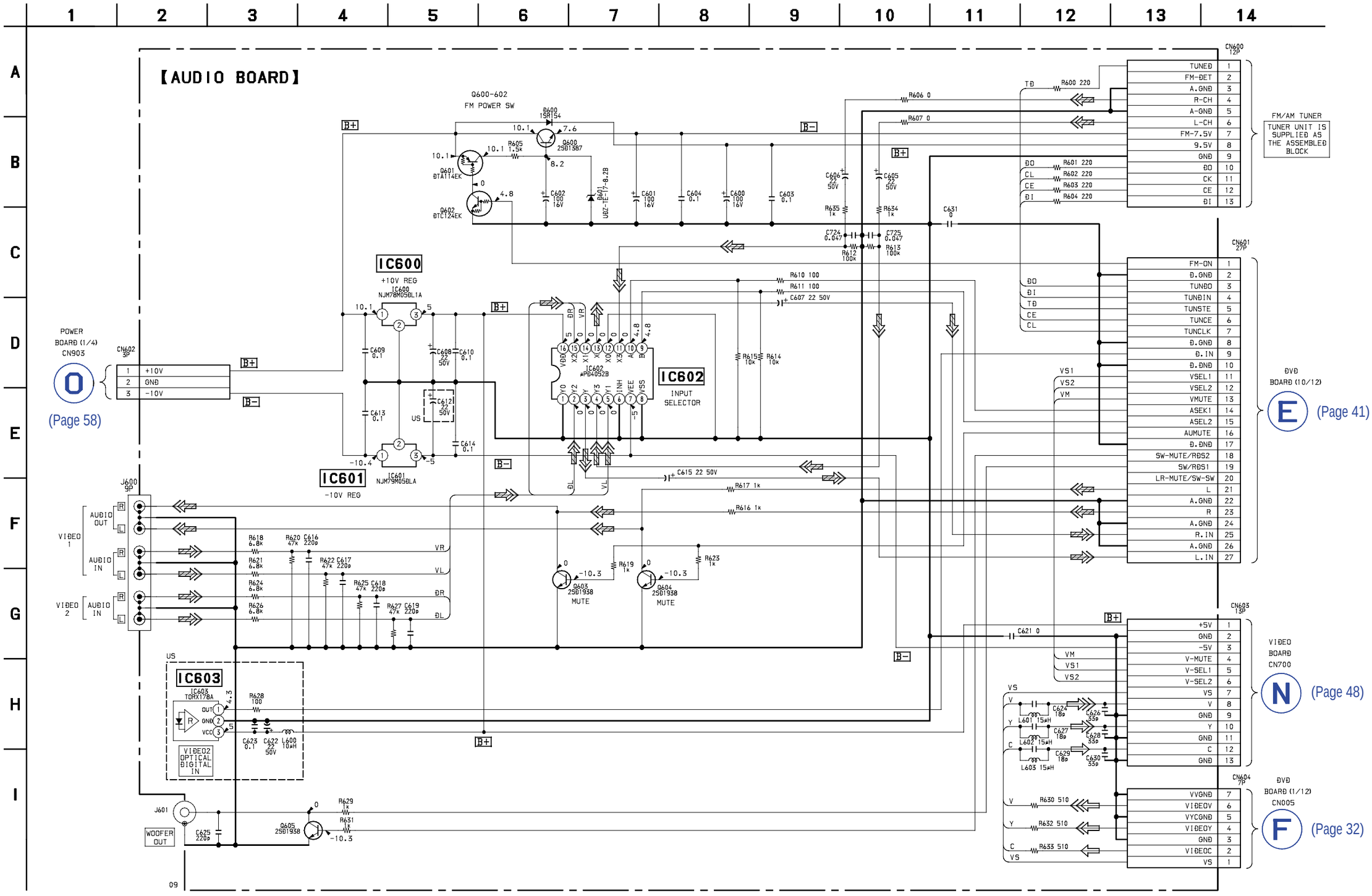


NOTE

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark: FM

6-24. SCHEMATIC DIAGRAM – AUDIO SECTION –

• See page 20 for Waveforms.

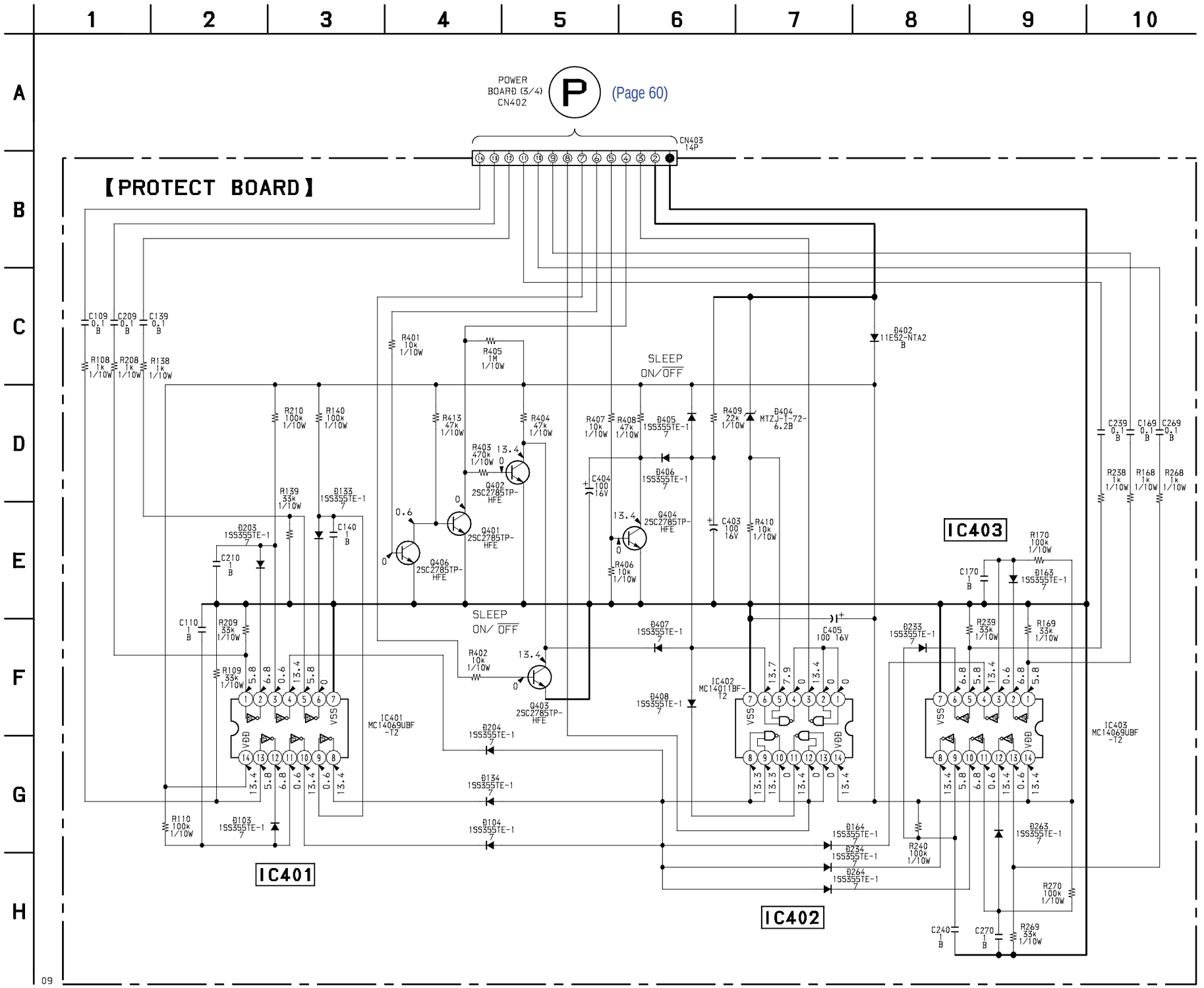


NOTE

• Voltages and waveforms are dc with respect to ground under no-signal conditions.
no mark: FM

6-26. SCHEMATIC DIAGRAM – PROTECT SECTION –

• See page 20 for Waveforms.

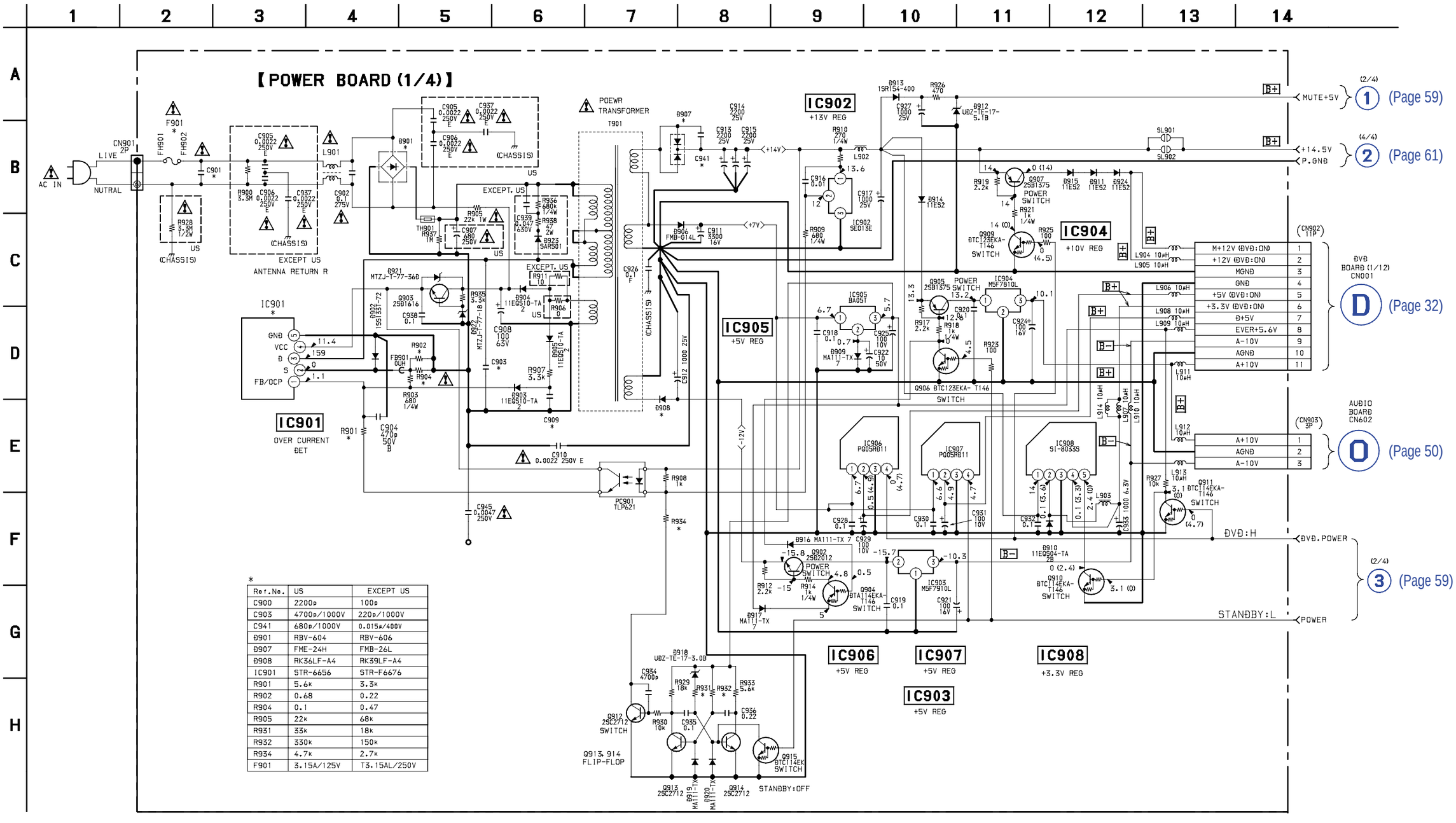


NOTE

• Voltages and waveforms are dc with respect to ground under no-signal conditions.
no mark: FM

6-30. SCHEMATIC DIAGRAM – POWER (1/4) SECTION –

- **See page 20 for Waveforms.**
- **See page 54 for Printed Wiring Board.**



*

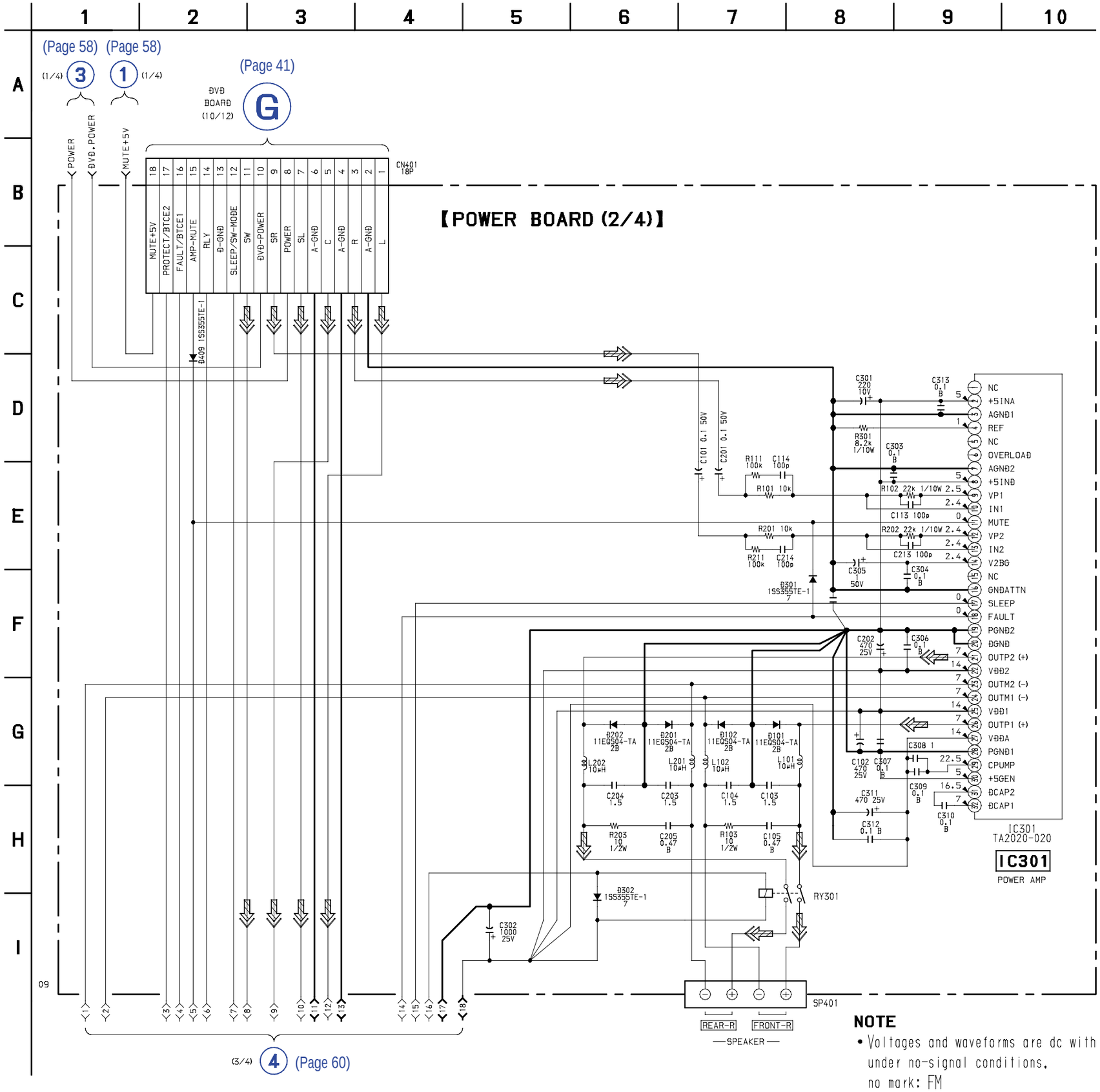
Ref.No.	US	EXCEPT US
C900	2200p	100p
C903	4700p/1000V	220p/1000V
C941	680p/1000V	0.015μ/400V
Ð901	RBV-604	RBV-606
Ð907	FME-24H	FMB-26L
Ð908	RK36LF-A4	RK39LF-A4
IC901	STR-6656	STR-F6676
R901	5.6k	3.3k
R902	0.68	0.22
R904	0.1	0.47
R905	22k	68k
R931	33k	18k
R932	330k	150k
R934	4.7k	2.7k
F901	3.15A/125V	T3.15AL/250V

NOTE

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark: FM
  ( ): ÐVÐ

6-31. SCHEMATIC DIAGRAM – POWER (2/4) SECTION –

- See page 20 for Waveforms.
- See page 54 for Printed Wiring Board.

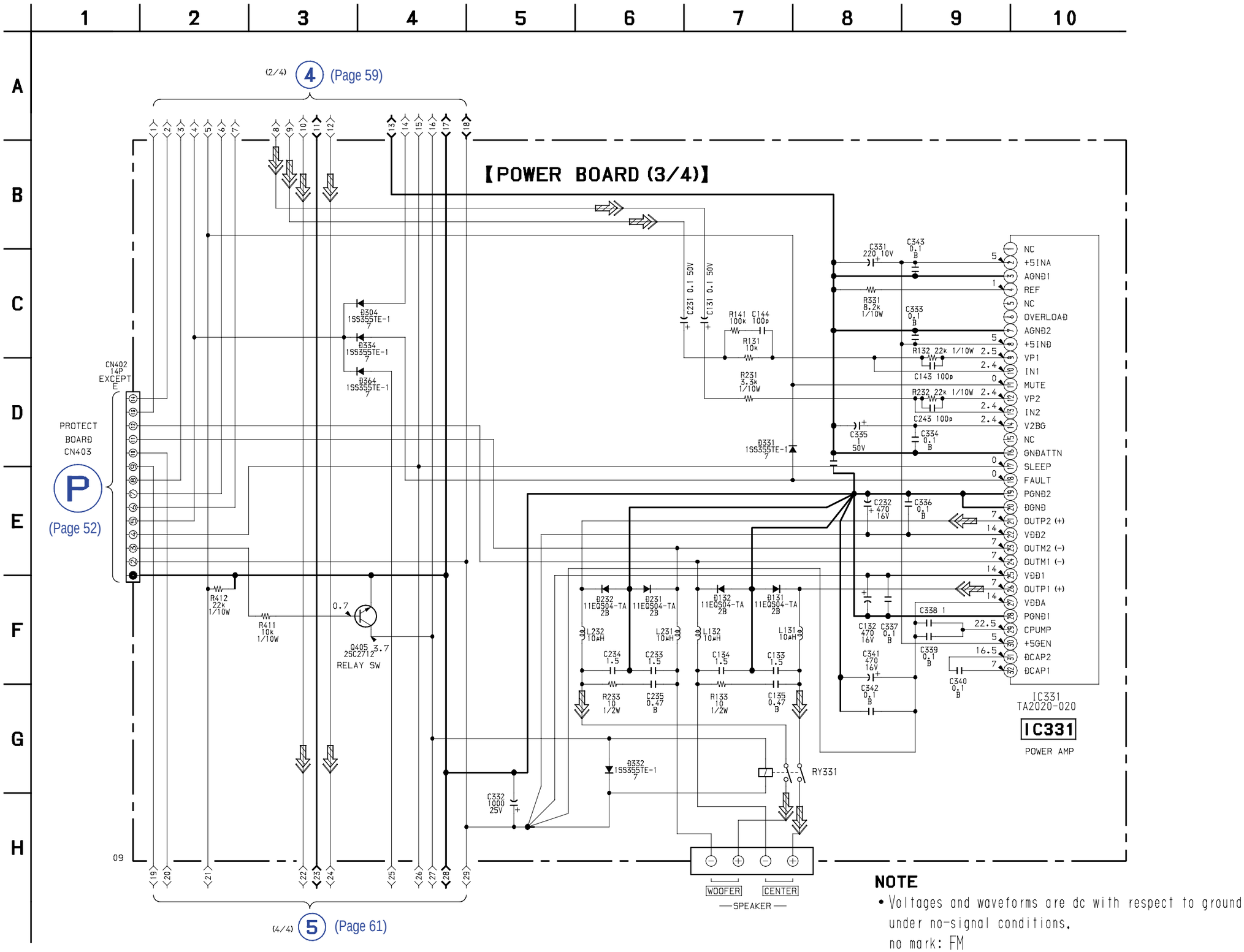


NOTE

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark: FM

6-32. SCHEMATIC DIAGRAM – POWER (3/4) SECTION –

- **See page 20 for Waveforms.**
- **See page 54 for Printed Wiring Board.**

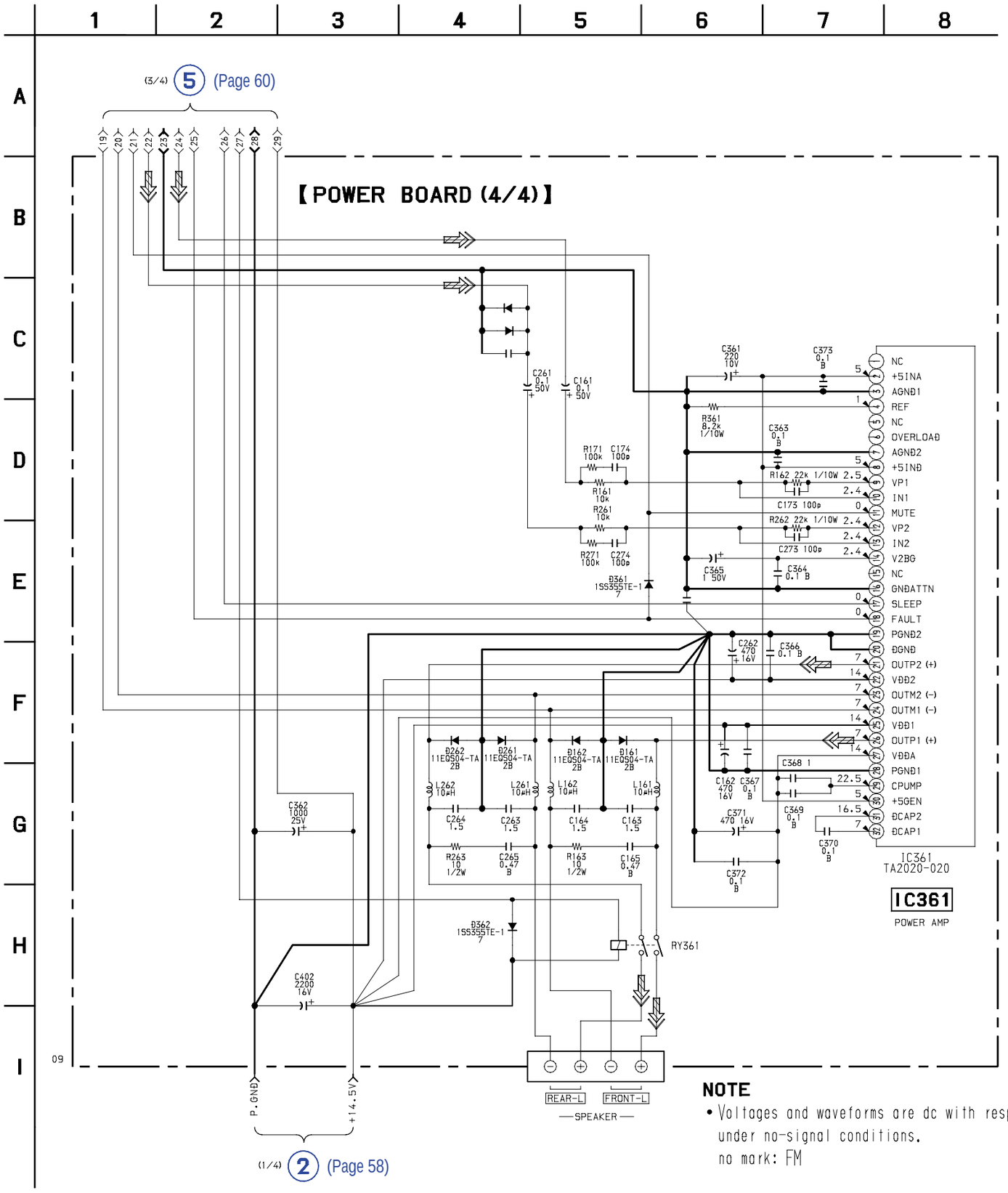


NOTE

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark: FM

6-33. SCHEMATIC DIAGRAM – POWER (4/4) SECTION –

- **See page 20 for Waveforms.**
- **See page 54 for Printed Wiring Board.**



NOTE

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark: FM